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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. I.—6TH YEAR. SYDNEY: SATURDAY, MARCH 8, 1919. No. 10.

THE SYPHILITIC FACTOR IN INSANITY.

By **W. A. T. Lind, M.B., Ch.B. (Melb.),**
Pathologist, Victorian Lunacy Department.

The daily press has rather startled the lay community of Victoria by publishing the number of venereal cases which have been reported per month, in accordance with the *Venereal Diseases Act*. For years past the annual report of the Inspector-General of the Insane in Victoria has supplied equally unpleasant information, in stating the large number of general paralytics who are received each year into the hospitals for the insane in Victoria. During the years 1912, 1913, 1914 and 1915 these were respectively 76, 88, 83 and 68, practically an average of 79 a year. Mott states that 3% to 5% of syphilitic infections develope into tabes or general paralysis of the insane. As the figure of 79 represents the general paralytics only (there being no record of the number of fresh cases of tabes occurring anually in Victoria), we are justified in taking the lower figure, namely, 3%, to represent the number of cases of general paralysis which develope every year in Victoria. If 79 then represents 3% of the syphilitics in Victoria, the total must be 2,633 fresh cases of syphilis per annum, because the general paralytics received yearly are all fresh cases. It seems quite reasonable to say that each patient with syphilis will infect or transmit the disease to at least three other individuals, so that Victoria gets 7,899 cases of syphilis every year, whether they are diagnosed or not. A large number of those persons do not survive birth or early childhood, perhaps do not survive more than a few weeks or months of gestation. The study of heredity charts in syphilitic families soon proves that contention. What becomes of all the others? A visit to the post-mortem room of a hospital for insane throws some light on the fate of many congenital and acquired syphilitics. Lately the writer of a medical article remarked that "syphilographers see so many poxy individuals that they gradually see syphilis in everything." That utterance, which, I am sorry to say, receives the approval of many medical men, condemns the author of it, who has apparently overlooked the fact that the specialist is the recognized authority on his own subject, unless he has forfeited that right by fanaticism or some other conduct. By a fortunate circumstance the private medical attendant of a female general paralytic, who was received into the Hospital for Insane, Kew, was able to supply information which might otherwise have not been brought to light. The information resulted in the discovery of a family of occult syphilis, where the existence of syphilis was never suspected. The blood test in some of the children was positive. These children were then carefully examined by their family doctor, who found evidence of syphilis in the teeth, etc. If that mother had not developed general paralysis of the insane this family would never have been suspected of being congenitally syphilitic. A detailed account of the case is reported in *The Medical Journal of Australia*, March 11, 1916.

In *The Medical Journal of Australia*, August 21, 1915, I drew attention to the fact that there are certain types of insanity which show syphilitic changes post-mortem, these types being *dementia præcox*, epilepsy and congenital mental deficiency. Now these types of insanity are, practically speaking, insanities of youth, an age at which the most sceptical would have to admit that atheromatous vessels are distinctly out of place, or that a definite sclerosis of spleen, kidneys and liver, with a marbled pattern of the capsule of the last-named organ, are sufficient justification for the diagnosis of congenital syphilis. These and other findings occur so constantly in definitely-known congenital syphilitics that there is not a doubt about their significance. The whole selection may not be present at once in the same individual; if that test were demanded one might almost expect to find the actual word "syphilis" delineated on the organs in some such arrangement as bloody Mary had decided upon in order to express her grief at the loss of Calais. During the last seven years I have made many post-mortem examinations at the hospitals for insane in Victoria, and an analysis of the post-mortem records of the last 40 patients who have died of *dementia præcox* at or under the age 40 shows that:—

Females..	14 ..	12 show syphilis ..	= 85% syphilis
Males ..	26 ..	24 show syphilis ..	= 92% syphilis
Total ..	40 ..	36 show syphilis ..	= 90% syphilis

There must always be an allowance for error in clinical diagnosis of the mental state in patients who are admitted well advanced in dementia, but, even allowing for that, the result of the post-mortem examination in these cases points to syphilis as being closely concerned with the onset of the insanity known as *dementia præcox*.

In regard to congenital mental deficiency, not epileptic, an analysis of the post-mortem findings in the last hundred deaths at the idiot cottages at Kew shows 65 undoubted syphilitics and 35 others. Of these 35 others there were some who were suspects. Our figures therefore err on the cautious side. An examination of the post-mortem records of cases of epilepsy show the predominance of these syphilitic changes. With the exception of the macroscopical changes in the brain, which are found in the cases of epilepsy associated with congenital mental deficiency, the post-mortem findings in the other organs are very much alike, both for the epilepties with congenital mental deficiency and the epilepties who were not congenital mental defectives. Of blood samples of fifteen epileptic idiots sent for the Wassermann test, four were returned as positive, five as partial and six as negative. As the Wassermann test is considered to disappear gradually in the congenital form of syphilis, this result is strong evidence in favour of syphilis being the causative factor in many of these cases. It is worth noting that a majority of juvenile general paralytics are diagnosed as epilepties, owing to the similarity between the fits and the physical and mental deterioration of the two conditions.

At one time heredity was not considered an important factor in general paralysis of the insane, but the evidence in favour of psychopathic inheritance being a predisposing cause to general paralysis of the insane, as in other insanities, is steadily increasing. Of 184 persons with general paralysis of the insane whose bodies have been examined after death during the last few years at Yarra Bend and Kew there were 23 who gave a history of psychopathic inheritance and ten who denied any history of insanity in the family. The question had not been put in the remaining cases.

It would be absurd to claim that syphilis is the cause of every insanity, but it is not far short of the truth to say that the combination of psychopathic inheritance, and acquired or congenital syphilis, is costing the public purse of Victoria a good round sum every year. The age of the general paralytic (acquired) used to be somewhere about 49, but, judging by the post-mortem examinations of the last few years, it seems to be gradually approaching 30. In other words, syphilis is acquired almost before the youth is mature. It looks as if the stone, bronze and iron ages will be recognized by posterity as being followed by the syphilitic age. A number of the victims of venereal disease know something in a vague manner of the risks run through illicit intercourse, but many of them have no idea that serious consequences (to themselves) could follow such acts. For the sake of the ignorant, I would suggest the use of the same wall sheet warnings concerning venereal disease as were issued in the case of meningitis and small-pox. We see on every pier and shore instructions for recuscitating the apparently drowned, why not a law that every factory, bank, shop, etc., where there are wage-earners should have a wall sheet on the dangers and consequences of venereal disease, drawn up by the Health Department. It is not sufficient in contemplating these evidences of sexual precocity to shrug our shoulders and say with Max Nordau *"fin de siècle."* Those of us who see most of the seamy side of humanity should make known any facts which intimately concern the welfare of the race. That is my *apologia* for supplying this information about the syphilitic factor in insanity.

SCOPOLAMINE AND MORPHINE IN LABOUR.[1]

By **A. G. H. Colquhoun, M.D., B.S. (Melb.),**
Yass; President of the Central Southern Medical Association, New South Wales.

I have to thank you for the honour of having been President of this Local Association for the past year. Thanks to the executive ability of your Secretary, there has been little work for the President to do, and there is little that calls for comment in the affairs of this Association during the past year. In our politics there is only one momentous question, that of our returning colleagues, and it is to be hoped that the Council of the New South Wales Branch will formulate some definite scheme without loss of time.

When one reviews the pandemic nature of the influenza, I think our quarantine service deserves the highest praise for their success in excluding the disease.

The subject-matter of an address to such an audience caused me much anxious thought, and it was a conversation with a leading Melbourne obstetrician that decided me to place before you eleven years' experience of the use of scopolamine-morphine in labour. We were talking about midwifery work, and I asked him did he use scopolamine-morphine. He said no, he had never tried it, as the journals mostly had adverse reports. I gave him briefly my experience, and he determined to give the method a trial. I thought perhaps some of you may likewise have been influenced against the use of these drugs by reports in the journals, and that perhaps my personal experience of these drugs might interest you. I first came in contact with this treatment at Aix-la-Chappelle in 1907. A doctor in that town, who attended 1,000 cases yearly, was in the habit of using a solution of hyoscine hydrobromide, 0.6 mgr., and morph. hydrochlor., 10 mgrs. in 0.3 c.cm. of water by hypodermic injection at the beginning of labour, and told me he could not possibly get through his work without its use. I saw a good many cases through his courtesy, and determined to try it. On my return to Victoria in 1908 I started by using the solution as above, but found it troublesome, for two reasons; one, that the solution did not keep well, and the other was that it was difficult to get a nurse to give the exact 0.3 c.cm. dose. It is so easy to give 0.35 or 0.4 c.cm., so I got Burroughs Wellcome & Co. to make a tabloid containing the exact quantities. Though I never lost a baby, I occasionally had some difficulty in inducing respiration, so on further consultation with Burroughs Wellcome & Company's representative 0.33 mgr. atrophine sulphate was added, and I have been using this tabloid, "hyoscine A" as this firm have called it, since 1909, and have had no trouble with the infant at all. I give the first injection when the patient begins to feel the pains severe. The stage of labour at which this is given, of course, varies according to the patient's temperament, but as a rough and ready rule it is given when the *os* is dilated to about the size of a shilling and the pains are regular.

Having given the injection, I instruct the nurse to darken the room, to admit no visitors and not to talk to the patient. Usually the injection takes effect in fifteen minutes and lasts from six to eight hours. There is a little restlessness during a pain, but after the pain subsides the patient drops off to sleep again. I leave a syringe charged with another dose, and instruct the nurse to give it at any time after six hours, when the patient appears to be conscious. The effect of the second injection does not last as long as the first, probably owing to the increasing intensity of the pains, and I usually see the patient two or three hours after the second injection, and, according to the progress of the case, decide whether another is necessary. In some primiparæ, where there is a good deal of disproportion between the size of the fœtus and the passage, as many as six or eight injections have been given. I never give an injection within

[1] Being an Address delivered at the Annual Meeting of the Central Southern Medical Association (New South Wales), held at Goulburn on January 24, 1919.

two hours of the birth of the child. There is complete amnesia dating from the first injection and an absence of shock and exhaustion that so frequently follow long labours. Thanks to these drugs we can wait till the head is distending the perineum well, the passage well stretched and the head moulded. In addition to the lessening of the patient's suffering there is, as a rule, less laceration. Another reason for the use of these drugs is that one is not worried by the request of the mother or mother-in-law to do something.

This is not the "twilight sleep," as carried out by Krönig and Gauss, which necessitates a good deal more personal attendance. In case some of you may not be aware of the technique of the real "twilight sleep," it may be of use to give a brief outline. As soon as the pains begin, the patient is put in a quiet and darkened room and plugs of cotton-wool are put in her ears. When the pains occur regularly, every five or six minutes, and the *os* about the size of a shilling, the initial dose is given. This consists of the injection of morphine hydrochloride, 15 mgr., hyoscine hydrobromide, 0.1 mgr. The patient usually rapidly begins to feel drowsy, and in an hour may fall off to sleep, but wakes when the pains come on. The second injection, hyoscine, 0.13 mgr., is given at the end of an hour. Half an hour later the patient's memory is tested by showing her some object and then allowing her to sleep. Some time afterwards the same object is shown again, the patient being awakened. If she recognizes the object as the one that was shown her before another dose of hyoscine, 0.13 mgr., is given. If, however, she does not recognize the object and says it had not been shown before, then the depth of desired unconsciousness has been reached. This memory test is repeated later, and, if necessary, similar doses of hyoscine may be required. The patient usually sleeps between the pains, but generally is conscious during them. She does not, however, fully appreciate the pains as such, and if asked about them generally describes them otherwise. Krönig lays stress on what he calls islets of memory. For instance, the patient, whilst coming out of the narcosis, may hear some noise or see some action, which arouses her and may remain in her brain, so that she will remember it, and after the labour will build up her ideas of the labour from this one fact. Thus the baby should be removed at once to another room, so as to avoid the mother hearing the child cry.

Haultain and Swift, of the Royal Maternity Hospital, Edinburgh, carried out a series of observations in 40 cases, but they likewise repeated the dose much more frequently than I do. Their conclusions were favourable, but though published in the *British Medical Journal* did not apparently attract much attention. They sum up their experience briefly by stating: "We have a safe and efficient means of managing labour painlessly in the majority of cases."

One point I would like to emphasize is that catheterization is necessary in all cases, and that I generally do just before the delivery of the head.

I have never seen any untoward effect, either in mother or child as the result of the use of these drugs, and I would not like to contemplate practising midwifery without their aid.

THE TOXIC SYNDROME.

By **Sydney Pern, M.R.C.S. (Lond.), L.R.C.P. (Eng.),**
Melbourne.

There is already a good deal of literature available dealing with septic infections and their results; but, perhaps, there are some points which need emphasizing.

People can be classed into three types which are distinctly of an hereditary nature, the sympathotonic, normally balanced individuals and the vagotonic.

The result of infection varies a good deal in these types. It also varies with the intensity of the infection and chronicity.

There is a well-marked syndrome of infection, which is chiefly sympathetic in nature. The first type to show it will be the sympathotonic, then the normals, and lastaly the vagotonics.

Of this syndrome, three symptoms stand out preeminent. They are nervousness, tremor and tachycardia. Tiring on slight exertion is also often well marked. Amongst others are dilated pupils, perspiration on slight provocation, a small amount of thyroid enlargement, flushing in patches about the face and neck and loss of weight. These symptoms may be very slight or very pronounced. In one case there may be just a feeling of lassitude, with some acceleration of the pulse-rate, or even dilated pupils may indicate the nature of the condition. On the other hand, there may be all the symptoms of exophthalmic goître, which after all are mainly sympathetic, with or without some enlargement of the thyroid.

The nervous element may show itself by the fact that the patient is easily startled, by the banging of a door or by something falling, which would not upset a normal person's equilibrium. It may be manifested by irritableness of temper, by neurasthenic signs, and even by loss of mental balance necessitating confinement in a mental hospital.

Tremor may be very fine, or so bad as to render the passing of a cup of tea impossible. This is a very common symptom in returned soldiers with septic foci, added to the strain of war conditions.

Tachycardia may be present in all grades, from slight acceleration of pulse-rate to 140 or more per minute. It is usually recognized that a patient is more or less nervous on coming into a doctor's consulting room, and that the pulse-rate will, therefore, be in excess of normal. My own experience does not bear this out, and I am always suspicious of infection in cases which show this symptom of a readily excited pulse-rate. Once this syndrome is easily recognized, it is truly remarkable the number of patients which depict it more or less, and on examination show some infective process of which they are often quite unconscious. Needless to say, unless a diligent search is carried out they will frequently be overlooked. Tuberculosis must always be borne in mind, but in this condition it is not the rule to get such acute toxic symptoms as in some other infections; the infection is more often of a mild type.

Of the sources of infections, tonsils, teeth and nasal accessory sinuses, and, perhaps, the prostate, stand convicted as the worst criminals.

Tonsils may be obviously discharging pus, or they may be small and hidden behind the pillars of the fauces. In the latter cases they may be made to exude pus by pressing on them. It matters not how large or small the infection is as long as it is present. In fact, if there is any tonsil visible in an adult, it is almost invariably infected, as they atrophy when healthy.

Teeth.—One is almost frightened to use the word pyorrhœa unless there are definite pockets of pus, and a probe can penetrate almost to the apex of a tooth. It is, however, immaterial whether it is called gingivitis or pyorrhœa; the condition is always dangerous. For a patient who has once shown marked toxic symptoms, there is only one treatment, and that is removal. As long as his immunity mechanism has not broken down, it may be worth while trying treatment.

Once toxic symptoms have developed and been cured, a very slight recrudescence of sepsis will bring back the old trouble, as is illustrated by the following two cases.

Miss A. had marked exophthalmic goître. Her septic tonsils were removed, and she got quite well under treatment. Eighteen months later the condition was almost as bad as ever. A septic piece of tonsil, the size of a pea, was removed, and the patient returned to normal again, and has remained so.

Miss B. was suffering from marked exophthalmic goître. Her septic tonsils were removed and she got quite well. Three years later she returned with the old symptoms. A radiograph revealed two apical abscesses at the roots of teeth. The teeth were removed, and the patient improved rapidly.

There is another source of infection which is easily overlooked in relationship to teeth, and that is the apical abscess. Certain statistics show 60% of dead teeth with apical abscesses. These are often quite painless, and can only be found by radiography. It is wise for people with dead teeth, who are not in a good state of health, to have a survey of the roots of their teeth carried out, as one hardly ever draws a blank.

Sinuses.—It is remarkable how many years a patient can have an infected sinus or antrum, and not be aware of the fact. On careful questioning one can usually elicit a history of these symptoms. They include headache, chiefly on waking up in the morning, a stuffy nose, a tendency to catch cold, post-nasal drip, and the expectoration of yellow mucus.

Headache is usually not complained of in the spetic syndrome unless there is sinus infection. If there is any doubt a radiographic examination and an examination by a rhinologist are sufficient to establish a diagnosis.

Amongst other causes may be mentioned bacilluria, pyelitis, gonorrhœa, chronic appendicitis, and infected gall bladder.

To what extent is the community handicapped as a result of these infections?

Almost all cardiac lesions which are not syphilitic are due to septic tonsils, sinuses or teeth, and, as such, are largely preventible.

Almost all joint infections, exclusive of syphilis and tuberculosis, are due to the same causes, and, as such, are also largely preventible.

Almost all goîtres in Australia have a septic focus as a factor. I have yet to see a toxic gôitre without one.

Recent work has shown that gastric and duodenal ulcer is in all probability due to an infection by a streptococcus, and experience in the out-patient department shows a large proportion of dental sepsis in ulcer cases. The same is true of appendicitis and infected gall-bladders, and why not pancreatitis or infection of any other organ?

Micro-organisms passing steadily into the blood stream may lodge anywhere and set up low-grade inflammatory conditions. No organ can claim immunity. It is not only the presence of bacteria, but the flooding of the body with harmful toxins, that result in a gradual spoiling, which eventually ends in hyperpiesis, or even in an actual infection by bacteria, causing acute or chronic nephritis, pyelitis, etc.. In this process the kidneys have to suffer. Sciatica, lumbago and neuritis are often directly due to these toxins, or even to bacterial infection itself.

How many diseases without a readily apparent cause shall we find eventually due to toxins or bacterial infection, which we so glibly carry about with us? There are others, such as certain types of purpura and *erythema nodosum*. Chronic bronchitis is often, if not always, directly due to infection from a nasal sinus, even lung involvement resembling tuberculosis may heal by clearing up a sinus, although tuberculosis may be grafted on to one of these infected lungs.

After all, with the exception of parasites, bacteria and their toxins, certain toxic proteins and mineral poisons, there is very little that can harm the body cells.

As regards treatment I am going to say very little, but wish to point out that it is very little use treating a cardiac lesion with rest, etc., and leave septic tonsils behind to produce more infection later. It is vain to use endless forms of treatment for rheumatoid arthritis and have septic teeth in the mouth, and to treat chronic nephritis with septic tonsils present.

With our present knowledge, the future generations should escape many of the ills of to-day.

THE NOMENCLATURE OF THE CRUCIAL LIGAMENTS.

By **G. Atkin Sampson, M.B., Ch.M. (Syd.),**
Maleny, Queensland.

Only too truly have those important ligaments of the knee-joint, the crucial, presented to the student's mind the X.

This has been due to the nomenclature. One ligament is called, in my edition of Cunningham, the anterior (or external) crucial ligament; the other is the posterior (or internal) crucial ligament. No other name is given. The anterior crucial ligament's attachment to the femur is actually more posterior than the posterior ligament's femoral attachment. Further, in the other terms, the external crucial ligament's attachment to the tibia is more internal than the in-

ternal crucial ligament's tibial attachment. These names give very little but confusion.

I suggest that a more rational and more informative naming is as follows—taken from the position of attachment of each ligament on, firstly, the proximal, and then the distal articulating bone—

Postero-anterior (or longer) crucial ligament;

Postero-posterior (or shorter) crucial ligament.

For both ligaments are attached proximally, each at its own separate area, at the posterior of the femur within the intercondyloid notch. But the one runs downwards, inwards and forwards, to be attached to the tibia near the front of the joint, in front of the tibial spine, while the other runs downwards, outwards and backwards, to gain attachment at the hinder part of the tibia, close to the popliteal notch of the tibia.

Advantages.

(1) The above names suggest at once the material points regarding the attachments of the ligaments, and even regarding the course of the ligaments.

(2) The name postero-anterior, hinting at a longer course from posterior to anterior, suggests the actual anatomical fact that the postero-anterior ligament is somewhat longer than the postero-posterior. It happens to be so.

(3) The postero-posterior ligament, it can be easily grasped, lies at the point of crossing, rather posteriorly to the postero-anterior ligament. It also lies internal at that point.

(4) Suggesting the attachment necessarily suggests the function. The further the tibia is moved forwards, the tighter will the postero-anterior ligament get, and eventually prevent over-extension. But when in flexion the tibia glides backwards, cupping with its semilunar cartilages a more and more posterior aspect of the femoral condyles, the anterior edge of the tibia comes nearer the intercondyloid notch of the femur, thus relaxing the postero-anterior ligament. The postero-posterior ligament, on the other hand, loose when the leg is straight, is rendered tense by full flexion of the knee, which it eventually limits, for the gliding movement of flexion and the cam-like action of the femoral condyles force the postero-posterior ligament's proximal attachment, which is close at the anterior edge of the intercondyloid notch of the femur, away from the distal attachment, which is near the posterior border of the upper end of the tibia.

It will still be necessary to memorize, therefore, that the upper attachment of the postero-posterior ligament, though posterior as regards the femur, is nevertheless quite far forward on the external surface of the internal condyle towards the anterior margin of the intercondyloid notch.

A little consideration will show that the names postero-posterior and postero-anterior give the cardinal anatomical and physiological facts, and are therefore most plainly the more correct names. Whether one ligament is attached to the internal condyle, whether one is shorter than the other, whether one crosses internally to the other, whether, indeed, these check ligaments cross one another at all, happen to be points of very little weight as compared with the fact that one is postero-posterior and the other postero-anterior.

THE PREVENTION OF PNEUMONIC INFLUENZA.

By **Norman W. Markwill, M.B., Ch.M. (Syd.),**
Thursday Island.

The following notes of a limited experience with epidemic pneumonia may be useful at this stage of the limited infection in Sydney.

Before the order was given to wear masks when boarding vessels carrying influenza the following prophylaxis was used and at the Quarantine Station at Thursday Island, with apparently good results: A spray for the naso-pharanx, consisting of equal parts of water and the chlorine gargle of St. Thomas's Hospital, and a paint for the fauces of 1 in 2,000 mercury biniodide in equal parts of water and glycerine. The former was used twice a day into the nostrils, the nozzle pointing along the floor up and to each side, and then through the mouth to the back of the throat; the latter was applied once a day in the morning with a wool swab.

One case occurred amongst the contacts from one vessel late at night on the day of landing, and was not isolated till the following morning; no further cases occurred.

No contacts from other vessels contracted the disease, nor did any of the staff.

Although the "Eastern" form of the disease is not so severe as that elsewhere, it is a much more severe form than the recent Australian epidemic, as there were for certain 10,000 deaths in the Kobe district, Japan, and it has been said that the deaths in the hinterland of the Philippine Islands ran into at least six figures. At any rate, its infectivity is probably the same.

The Australian form of influenza occurred in Thursday Island, and this means of prophylaxis was used in the barracks and naval depôt with good results.

The only spray that seemed to be of much use in England was chloramine-T, but this is unprocurable in Sydney. Surgeon Byrne, R.A.N., undoubtedly had good results with eusol as a spray combined, with the same paint as above. The zinc sulphate spray requires a special apparatus.

Although the use of sprays has not met with general approval, if they do no harm they are certainly worth persevering with. The above strengths of chlorine and mercury respectively do not seem irritating to the tissues, and as a secondary aid to prophylaxis, masks being the first, seem to be indicated.

As a prophylactic encourage smoking (*Lancet*, 1913, I., 450).

With respect to treatment, in addition to *ac. acetosal* and other symptomatic treatment, the following modification of Mathison's mixture (*British Medical Journal*, 1914, 512), pot. iod., 3.6 grm.; creosote, 1.8 grm.; *spirit. am. arom.*, 10.8 grm.; *liq. ext. glycyrr.*, 10.8 mils; *aq. chlor.*, 180 mils; one tablespoonful given four-hourly as early as possible seems undoubtedly to mitigate the pneumonic symptoms.

Cataplasma kaolini co. does not appear to do much good, but seems to me to be indicated.

Occasionally chronicity of the disease is aggravated by absorption from the throat; a paint of equal parts of *glyc. alum.* and *glyc. ac. tann.* does good. A good spray is 5% menthol in acetazone inhalant.

SWEET'S METHOD OF LOCALIZING FOREIGN BODY IN THE EYE: GEOMETRICAL PROOF.

Dr. J. C. Halliday reports:—

No doubt all X-ray workers and ophthalmologists are quite familiar with Dr. Sweet's ingenious construction for the localization of a foreign body in the eye, but some may not have seen a geometrical proof of the problem. Both construction and proof are based on the assumption that the source of the rays is at an infinite distance, and hence that the rays are parallel.

Mr. T. Dansie Sawkins, M.A., has set out the mathematical problem in the following terms:—

Figure I.—OX, OY, OZ are the lines of intersection of three planes at right angles. M_1 and M_2 are the two markers, 15 mm. apart, lying in the plane ZOX, which passes through F, the centre of the eye, which in both radiographs is supposed to be looking in the direction FM_1. The patient is

lying parallel to the plate, YOZ, and OZ passes through the centre of both his eyes. P is the foreign body. XOY is the plane of the plate holder, supposed to maintain a constant position relatively to M_1 and M_2 and F during both exposures. The first exposure gives the shadows: M^1 of both M_1 and M_2

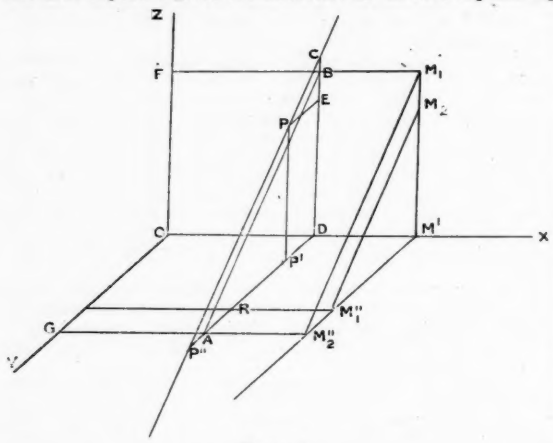

FIGURE I.

and P^1 of P. It is assumed that the orientation of the plate is determined by some means, *i.e.*, that the direction M^1O can be drawn on it. The second exposure gives the shadows: M_1'' of M_1, M_2'' of M_2 and P'' of P. It is assumed that the orientation of this plate is determined by some means, *i.e.*, that the direction $M_1''G$ parallel to OX can be drawn on it. The source of rays being supposed at an infinite distance during both exposures, PP^1 and M_1M_2 are parallel and perpendicular to XOY, and also M_1M_1'', M_2M_2'' and PP'' are parallel lines. The first radiograph, if M_1F is known, gives two co-ordinates of the foreign body with reference to axes passing through the centre of the eye, *viz.*, OD and DP_1. The remaining co-ordinate to be determined from the second radiograph is the depth of P below the plane parallel to XOY, passing through FM_1. Now in the figure we have the following sets of parallel lines (by construction or inference):—

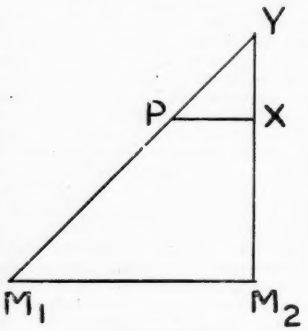

FIGURE II.

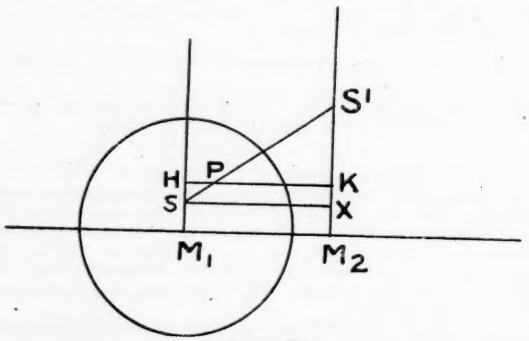

FIGURE III.

(1) M_1M_1'', M_2M_2'', CPP'' and AB
(2) $M'M_2''M_1''$, DP'AP'', OG, PE
(3) PP', CBED, M_1M_2M'

and the length we want to determine is BE, the third co-ordinate. We have seen from the first plate the measurable length, DP', and from the second plate the measurable lengths, $M_1''M_2''$ and AP'' (and no others that are not the equivalents of these). M_1 and M_2 are, of course, at a known distance (15 mm.) apart.

We have $BE = CE - CB$

and $\frac{CE}{DP'} = \frac{M_1M_2}{M_1''M_2''}$ and $\frac{CB}{AP''} = \frac{M_1M_2}{M_1''M_2''} = k$ (say),

therefore $\frac{BE}{DP - AP} = \frac{M_1M_2}{M_1''M_2''} = k$ (say),

therefore $BE = (DP' - AP'')\ k$.

Figure II.—To construct BE graphically: Draw M_1M_2 15 mm., draw M_2Y perpendicular to M_1M_2 and equal to M_1M_2'', join M_1Y, take $YX = DP - AP''$, draw a parallel, and XP is the required length, BE.

Comparing these values in Sweet's construction, we find in Figure III. M_1H is marked off equal to DP' (determined by the first radiograph). M_1S is marked off equal to AP'' and M_2S' equal to P''R (determined by the second radiograph) (Figure I.). Join SS' and draw HK and SX parallel to M_1M_2. Then HP is the required co-ordinate. For $SH = DP' - AP''$ and $S'X = P''R - AP''$, which is $M_1''M_2''$

and $\frac{HP}{SH} = \frac{SX}{S'X} = \frac{M_1M_2}{M_1''M_2''}$

therefore HP is the required length.

Reviews.

NEUROLOGICAL CLINICS.

The volume before us[3] is the first of a series of exercises in the diagnosis of diseases of the nervous system, which the staff of the Neurological Institute of New York hope to publish annually, provided it is found of use by their colleagues. We trust that this hope may be realized, and we may say that if it depends on the recognition of good work their anticipation is secure.

It is a regrettable truth that few, if any, hospitals in the world return full interest to the profession for work performed by the profession. This is the case even in hospitals attached to medical schools, because food for teachers and students cannot be shared by the busy practitioner. It so comes about that there is an annual wastage, whose total is enormous.

The Neurological Institute of New York makes an effort to obviate this waste. Utilizing the services of Dr. Joseph Collins as editor, and inviting members of the staff to write up special cases, they provide a selective record of the year's work, one which is presented in attractive form, and one which may be read with pleasure and profit alike by neurologist and general practitioner. The plan followed is to state succinctly the main positive features of the patient's statement. Then to discsss the objective symptoms and explain how they indicate the correct diagnosis. While the chief object of the lessons is to teach correct diagnosis, prognosis and treatment are not neglected, so disposing of the once popular fiction, arising at a time when epilepsy and hysteria were the only diseases recognized, that in nervous diseases there is no treatment.

Since no less than 41 cases are reported it is impossible to pass them individually under review, but we may say that every one of them holds interest; indeed, equality is one of the most pleasing features of the records and a tribute to American advances in neurology. We may add that cases of cerebral tumour of various kinds, cerebral syphilis, sundry diseases of the spinal cord and a number of conditions are shown under examination by skilled men, considered in regard to recent teaching and handed out in a manner acceptable to the reader.

[3] Neurological Clinics; Exercises in the Diagnosis of Diseases of the Nervous System, given at the Neurological Institute, New York, by the Staff of the First Division; Edited by Joseph Collins, M.D.; 1918. New York: Paul B. Hoeber; Demy 8vo., pp. 271, illustrated. Price, $3 net.

The Medical Journal of Australia.

SATURDAY, MARCH 8, 1919.

An Urgent Matter.

In July last we called attention to the grave danger of permitting the medical care and vocational training of disabled soldiers returned from active service to fail in their objects because the duties were divided between two Government departments, which were independent of one another, and which had neglected the obviously essential step of working in collaboration. During the months that have passed since then the position has become worse rather than better and to-day we seek in vain for some evidence of a properly elaborated and perfected scheme for the ultimate rehabilitation of the men who have served the country faithfully and bravely. The fact that in the meantime hostilities have ceased, renders the problem more difficult than it was seven months ago. Men are being drafted back in large numbers. Soon the Department of Defence will have completed its task of demobilization and the last chances of phyical restoration and re-education will slip by unused, unless energetic and rational measures are adopted by the Department of Repatriation. A further complication has arisen through the inordinate delay in the establishment of an orthopædic department or service in connexion with the Australian Imperial Force. For years we clamoured for the institution of this service, including full ramifications throughout France, Egypt and Palestine, with an establishment in Great Britain, with adequate provision for continued orthopædic treatment on board the transports and with well-equipped hospitals, clinics and curative annexes in the Commonwealth. The war was nearly over before any steps were taken to carry out this necessary preliminary to the work of occupational re-establishment of the incapacitated men. The appointment of an eminent orthopædic surgeon as Consulting Orthopædic Specialist at Headquarters marked not only the first step in the ladder, but revealed a highly laudable recognition on the part of the Director-General Medical Services of Australia's obligations to her soldiers. The initial work must have been extremely difficult, partly because four and a half years of departmental inflexibility rendered rapid equipment practically impossible and partly because of the natural tendency of the higher authorities to resist the setting up of new and extensive establishments on a permanent basis after the termination of hostilities. It is undoubted that had these steps been planned two or three years ago, no one would have hesitated in recommending that the service should have been as complete as human ingenuity could devise it. In the early days of the war we emphasized over and over again that the machinery should be planned in such a way that there should be no interruption in the treatment of the injured men from their transference to an orthopædic hospital in France or England until surgery and technical education had done as much for them as the natures of their injuries permitted.

The Department of Defence, as we have stated above, recognized its duties in regard to the appointment of a competent specialist to organize a branch of the service, when the Director-General Medical Services pressed for this tardy reform. The Department has not yet given any indication of a recognition of the duty to carry this work on to a logical termination. The only way in which this can be effected, is by a close co-operation with the Department of Repatriation. This Department shows no disposition to join forces with the Department of Defence. Indeed, it has neglected to organize the work of vocational training on a broad, scientific scheme. The policy of waiting for the disabled men to come to the Department for assistance is fundamentally wrong. And yet the alternative policy of alertness seems to be distasteful to the Department. Those who have studied this question during the past three years, have arrived at the conclusion that the only way in which the many difficulties may be overcome, at all events to a great extent, is for the Department of Repatriation to enter into intimate relations with the Department of Defence, with the view to a constant, reciprocal activity. Before the maimed man is discharged he should be kept under the charge of a trained orthopædic sur-

geon, at whose right hand there should be a highly trained technician, ready to guide him in regard to the employment as parts of the physical treatment of suitable occupational exercises. These experts can almost always discover some form of manual work that will be more beneficial surgically to the weakened muscles or injured limbs than any of the sterile mechanical contrivances found in the Zander institute. In this way the vocational training is begun as part of the curative process. After discharge from the army the training should be continued on more or less the same lines and for this purpose the condition should be reversed. The technical instructor should be in charge, but he should have constantly at his elbow the highly trained orthopædic surgeon to advise and check, to guide and suggest. Thus before discharge the technician of the Repatriation Department should be at the disposal of the special medical officers of the Australian Army Medical Corps. After discharge the technician should be able to seek the assistance of the same medical officer who directed the treatment of the man in the earlier stages.

Another essential needs indicating. In our advocacy of an orthopædic service we pointed out from the first that success depended on the appointment of a capable specialist to take complete control of the service and to be responsible for its working. Similarly the most expert technician in the Commonwealth should be appointed director of vocational training and should have supreme charge of this work. This officer should be given a free hand to develope a plan whereby the soldier before discharge would, of necessity, come in contact with the officers of his service and thus be placed in the position of receiving the best training available for him. The time for suggestions has gone by. It is necessary now to make definite demands in plain language. If the Federal Government intends to carry out its obligations to the men who have suffered serious injury in the service of the Empire, it must be done quickly. The Department of Repatriation must immediately set its house in order. The appointment of an expert as technical vocational director is the first step. Popular opinion and the advice of experts would scarcely hesitate in selecting Mr. James Nangle for this position. The next step must be a co-operation with the Department of Defence, which would involve those reciprocal arrangements to which we have just referred.

CROSS QUESTIONS.

There was a time when the game of "Consequences" was a fashionable pastime. Otherwise sensible people delighted in writing down answers at random to questions hidden from their view and ken. The result was often amusing and by accident it occasionally transpired that a rational reply was appended to one of the questions. The game is being resurrected in Tasmania. It will be remembered that Mr. Justice Ewing was appointed some months ago a Royal Commissioner to enquire into two more or less unimportant side issues connected with the validity of a document, alleged to be a diploma entitling the holder to practice medicine, on which one Victor Richard Rattan secured registration as a medical practitioner in the State of Tasmania in the year 1907. As far as we are aware no one in Australia, save Victor Rattan himself, was or is in a position to state what studies were carried out by him for the purpose of entitling him to sit for an examination, what form of examination he passed through and under what conditions the document was given to him. The document purports to be a diploma of the Harvey Medical College of Chicago. As reported in our issue of February 15, 1919, Dr. N. P. Colwell, the Secretary of the Council on Medical Education of the American Medical Association, asserts in the most definite terms that no Harvey Medical College existed in Chicago in the year 1907. We are consequently justified in stating that the mystery of the document has not been solved by the enquiry held by the Royal Commissioner.

His Honour Judge Ewing, in conducting his enquiry, caused a cablegram to be sent to the Attorney-General of Illinois, asking two specific questions. The first was in effect whether the Harvey Medical College of Chicago existed on March 8, 1907, and the second was whether Victor Richard Ratten became a doctor of medicine of that College. He did not await a reply to this cablegram, but for some unexplained reason communicated with some persons named on the document, whose validity was in question, and promptly received from these persons the only reply

they could have sent, provided that the signatures were genuine. The reply was to the effect that they had issued the diploma on the date mentioned to Victor Richard Rattan. It is singular that this should have been accepted by a Judge of the Supreme Court as evidence, seeing that it was received from persons quite unknown to the medical profession and to others in Australia. On the other hand, the Premier and his colleagues had at that time presented to Parliament an amending bill to the *Medical Act*, which contained in its schedule a provision to the effect that for the purposes of registration in Tasmania, those medical colleges which were rated as of Class "A" by the Council of Medical Education of the American Medical Association, should be recognized. The evidence of the Secretary of this body, a man of high reputation, was brushed aside, and the evidence of strangers, who were not even disinterested parties, was accepted. On the strength of this extraordinary procedure the Royal Commissioner came to the conclusion that the Harvey Medical College did exist in the year 1907, and that the document submitted for the purpose of registration to the Court of Medical Examiners in 1907, was issued by the Harvey Medical College to Victor Richard Rattan.

The sequel is still stranger. In the course of time His Honour Judge Ewing announced that he had received a reply from the Attorney-General of Illinois. The replies remind us of the game of consequences. To the question whether the Harvey Medical College existed in 1907, there is the statement that the Harvey Medical College was incorporated in the year 1894, and that "it is now an institution of good standing." To the second question, whether Victor Richard Rattan became a doctor of medicine of that college, there is the statement that the records of the Department of Registration and Education of Illinois fail to show a licensed physician by the name of Victor Richard Rattan. We have delayed in calling attention to the highly unsatisfactory nature of this information in the hope that some explanation would be offered for the fact that the questions asked were not answered. It is difficult to understand how a prominent Government official could have so confused the issue. We have the assurance of the Secretary of the Council on Medical Education of the American Medical Association that no Harvey College existed in 1907. Prior to 1905 this college was a night-school. According to the records of the Carnegie Foundation for the Advancement of Teaching, these night-colleges are run as out-and-out commercial enterprises and do not enjoy a good reputation. And, further, we are told that the Dean of the defunct Harvey College failed to find any record of Rattan's name, either as a student or as a diplomate.

THE PROPHYLAXIS AND TREATMENT OF VENEREAL DISEASE.

The war has taught the community many things. It has been the means of educating public opinion on matters that formerly were regarded as either unworthy of recognition or too unsavoury to warrant free discussion. Formerly the Bishops in the House of Lords led a campaign of opposition to any endeavour to limit the incidence of venereal disease, on the ground that each and every proposal to this end must imply a condoning of vice. The public was kept in absolute ignorance as to the nature, frequency and consequences of these diseases and since these infections were never spoken of, they were allowed to spread through all classes unchecked and unchallenged. The war has forced the world to realize that venereal disease was one of the most important facts to be reckoned with in the establishment of armies. It was evident to those in authority that unless special means were adopted, the loss of effectives as a result of venereal infections might make the difference between victory and defeat. Kind persons tried to find excuses for human nature. They stated that the hardships and restraints associated with active service, broken from time to time by leave under conditions that were unusual for the vast majority of the men, provided a licence which was abused, partly through ignorance and partly as a result of the unaccustomed temptations attaching to a soldier's uniform. It is probably true that danger, hardships and prolonged restraint induce in the majority a desire to throw off the bonds of discipline and to follow natural inclinations. But it is equally true that, as is accepted in the Divorce Court, given opportunity and desire, guilt may be assumed. We fear that it is only the exceptional male to whom this dictum does not apply. Consequently, the hygienist is compelled to recognize the fact that, despite all appeals to conscience, despite all preaching and moral teaching, illicit sexual intercourse will remain a serious cause of disease until the rational prophylactic measures are applied widely throughout the community.

During the course of the war the British Imperial Government recognized this fact and the Local Government Board introduced certain measures with a view to the control of venereal infections among the civil population in Great Britain. In the first place the larger local authorities were required to provide treatment, remedies and facilities for laboratory diagnosis under the supervision and direction of the Local

Government Board. The local authorities were asked to submit schemes for free treatment of all sufferers from venereal diseases. The fullest use was made of existing hospitals for this purpose. The Government agreed to pay three-quarters of the cost of the measures adopted to combat these diseases, provided that the approval of the Local Government Board was obtained for the selected measures. After approximately one year of the campaign, 134 local authorities submitted schemes and 118 of these have received the approval of the Board. The population served by these local authorities aggregated about 28,000,000, out of a total of 35,000,000. No less than 154 hospitals have been included in the movement and treatment centres have been established in the majority of them. The local authorities advertise the fact that treatment can be obtained gratis at the various treatment centres and with the assistance of the National Council for Combating Venereal Diseases a public campaign has been set on foot, having for its object the enlightenment of the public concerning the dangers of extra-nuptial sexual intercourse, the advantages of celibacy before marriage, the nature of venereal infections and the consequences of these diseases. The passage of the *Venereal Diseases Act, 1917*, marked an important step in the campaign. According to its provisions, no one save a legally qualified medical practitioner is allowed to treat or give any advice to a person suffering from a venereal disease in any area where an approved scheme is in force. Advertisements of vaunted cures are prohibited. The next step in the campaign was the institution of some form of direct prophylaxis. It appears that the adoption of these measures in the Army created in the public mind a certain degree of anxiety concerning the futility of these measures if the civil population were excluded. This is a very difficult matter and one which requires delicate handling. So far, no definite action has been taken, but there are indications that, before long, the civil population may be offered facilities for preventing the development of venereal disease after exposure to infection.

Seamen belonging to the mercantile service have not been neglected. Treatment centres have been provided and special cards bearing the details of the infection and of the treatment adopted in one centre are issued to the seamen, so that, on arrival at the next port, continuity of treatment may be assured. It is significant that this arrangement applies equally to British and foreign seamen.

In France the measures that have been adopted among the civil population include the establishment of treatment centres in association with existing hospitals. These centres or clinics are under the direction of expert clinicians and pathologists and in the majority of instances are not divorced from the ordinary dermatological departments. All treatment given is gratuitously. In the country districts subcentres for consultation are provided in conveniently situated towns. The whole of this treatment provision is under the control of the Prefects. The local authority is not required to pay for any expenditure in excess to that previously incurred by the hospital. While increased vigilance has been introduced in connexion with the medical inspection in the *maisons tolerées*, enormous difficulty is being experienced in regard to the control of clandestine prostitution.

In Italy there has been a rapid development of a system aiming at the more adequate treatment of venereal disease in civilians. Venereal clinics have been established at the municipal and other hospitals, where free treatment is accorded to any person claiming it. The Government has provided facilities for diagnosis. Popular lectures are delivered under auspicious conditions on the dangers, prophylaxis and treatment of syphilis. These lectures have official recognition, but the lecturers are engaged by voluntary societies. A special sanitary service undertakes the supervision of public and private prostitution. There has been an attempt to reach the clandestine prostitutes, whose number is said to have increased largely since the beginning of the war. Certificates are given to factory workers and other women in industrial employment who submit to regular medical inspection. These certificates exempt the holders from arrest on suspicion of soliciting, provided that public decency is observed.

THE WEIL-FELIX TEST FOR TYPHUS FEVER.

Typhus fever is an infection which many medical practitioners, both in Australia and in Great Britain, are acquainted with from text-book descriptions only. Formerly a common endemic disease, its disappearance followed the clearing up of prisons and filth areas in England. In Ireland outbreaks occurred long after epidemiologists in England sought in vain for single cases to study and to demonstrate. In Austria and Russia the disease had not been stamped out prior to the war, and it was ready in other parts of the world for a fresh lease of life when the war presented favourable conditions for wide-spread outbreaks. We have published from time to time the records of the Public Health Service of the United States of America, giving the distribution of typhus fever in many countries during the war. Russia, Austria-Hungary, Mexico, South Africa, Egypt and Turkey became hotbeds of the disease. In Russia waves of infection played with the population, and gave rise to upward of two or three thousand cases per month; in Austria-Hungary the incidence was still higher per unit of population. In Egypt in one year, from February, 1917, to February, 1918, there were 4,352 cases and 1,990 deaths. Little wonder that the attention of the medical profession has been attracted to the problem of the ætiology and the diagnosis of typhus fever.

In 1916 Weil and Felix reported that the serum of persons suffering from typhus fever agglutinated certain of the intestinal bacteria. Among these bacteria is a lactose-non-fermenter, known in the laboratory as X 19. It is a Gram-negative, motile bacillus, and grows only in the presence of a free supply of oxygen. It produces acid and gas from glucose, saccharose, maltose and mannite, but not from dulcite. It acidifies milk without curdling it, and is an indol-producing organism. While no one claims a causal relationship for this bacterium in connexion with typhus

fever, the Austrian observers named above and some German bacteriologists have suggested that it is a secondary invader of remarkable constancy. Captain C. M. Craig and Major N. Hamilton Fairley[1] are unable to accept this view, because they have only on rare occasions found the organism in the urine or blood of patients suffering from typhus fever in Egypt, and because they failed to demonstrate a complement deviating ambeceptor in the blood of their patients, although they had no difficulty in producing such an antibody in monkeys immunized with the bacillus. On the other hand, they were able to demonstrate the diagnostic value of the agglutinin test with this proteus-like bacterium. Their experiments show quite clearly that the reaction is not dependent on a specific agglutinin, but is brought about by a pseudo-agglutinin. They found that a rapid agglutination of the bacilli with a dilution of serum of one part in ten, is an important indication justifying the isolation of patients, especially of natives. Agglutination with serum diluted fifty to two thousand times follows in the majority of cases. On the other hand, the serum of persons not suffering from typhus fever failed to produce any agglutination, save in three cases, in which a slight reaction was observed with a dilution of 1:10. It is interesting to note that standard immune sera for Shiga's bacillus, Flexner's bacillus, *Bacillus typhosus, Bacillus paratyphosus A* and *B* and Koch's cholera vibrio failed to induce any agglutination of the proteus-like organism.

CANCER OF THE STOMACH AND DUODENUM.

It is not unjustified when two differentiable conditions are frequently met in association with one another to assume that there exists a causal relationship. Surgeons have long noted that carcinoma of the pylorus is a common sequel to pyloric ulcer. This experience finds confirmation in the histological nature of the early carcinomatous changes found in ulcer lesions or in the cicatrices of healed ulcers. Moreover, pathologists have established the fact that carcinoma in various parts of the body develops in the majority of cases in situations where there has been chronic irritative lesions. At the annual meeting of the Medical Society of New York in May, 1918, two speakers questioned whether this association was as real as it appeared.[2] Dr. S. Basch pointed out that it was most strange that the stomach was the only position in the body where ulcers changed from a simple to a malignant form. The stomach was a dark cavity, not open to inspection. He suggested that the carcinomata of the stomach supposed to have been implanted upon ulcers were in reality primarily carcinomatous. Dr. John A. Lichty questioned the association on other grounds. He pointed out that within recent years it had been shown that duodenal ulcer was much more common than gastric ulcer. Improved diagnosis had revealed this to the great majority of surgeons. He stated that in his experience 27% of ulcer cases were gastric and 73% were duodenal. On the other hand, gastric cancer was extremely common, while duodenal cancer was rare. The ratio of carcinoma of the duodenum to duodenal ulcer in his series of cases (486) was as one is to eighty, while the ratio of gastric carcinoma to gastric ulcer in a series of 780 cases was as one is to two and one-fourth. Moynihan found that duodenal ulcer occurred in the upper 3.75 cm. of the duodenum. Lichty had experience of six cases of duodenal cancer and the lesion was placed four times at the papilla of Vater and twice in the pyloric ring. On the other hand, he argued that the site of gastric ulcer corresponded to that of gastric carcinoma. He concluded from these observations that the ætiological factor in carcinoma of both the stomach and the duodenum was something entirely independent of ulcer. Before any attempt is made to find an explanation for the frequency of gastric cancer, it is advisable to determine whether or not the experience of the New York surgeons is confirmed by our own surgeons. If it can be established that the site of duodenal carcinoma does not correspond to that of ulcer, it follows that, as far as the duodenal lesion is concerned, the malignant disease is not a consequence of a simple ulcer. It appears to be a reasonable deduction if it can be shown that duodenal cancer is not dependent on ulcer, that the same probably holds true of gastric cancer. We invite surgeons in our large clinics to pay attention to these points and to record their observations in these columns.

[1] *The Lancet*, September 21, 1918.
[2] *New York State Journal of Medicine*, December, 1918.

PNEUMONIC INFLUENZA.

On February 27, 1919, His Excellency the Governor of New South Wales issued a proclamation varying the order previously made concerning the holding of outdoor meetings and the wearing of masks. By the modified order race-meetings and other outdoor meetings are permitted to be held and, further, persons in the open air are no longer required to wear masks, although travellers in trains, tram-cars, motor-omnibuses and cabins of ferry steamers are required to do so. A subsequent proclamation has further modified these orders.

In the *Victoria Government Gazette*, No. 35, of February 20, 1919, are published the Consolidated Influenza Regulations made under the provisions of the *Health Act, 1915*. These regulations are to a large extent identical in terms to those published in *The Medical Journal of Australia*, pages 112, 141, 156 and 176. In a few cases there is some modification of the wording, ostensibly for the purpose of rendering the meaning of the regulation clearer. Two fresh regulations have been added. The first gives the proper health authority power to close places of worship, if it be found that persons present negligently or wilfully fail to wear the approved mask. The second gives the proper health authority power to close sports grounds, etc., if it be found that the regulations concerning the assembling of persons in excessive numbers are not observed.

Sensationalism in the daily press in connexion with the outbreak of influenza is the order of the day. It is most refreshing to read the following sane remarks in the *Mercury* (Hobart) of February 15, 1919, in connexion with a letter dealing with the advisability of employing alcohol in the treatment of this infection:—

> We deprecate further public discussion of a matter which, like that of the usefulness of masks or inoculation or safe period of quarantine, is essentially for experts to argue upon, and not to be decided by amateurs or press-writers, whose acquaintance with these most delicate questions, involving perhaps thousands of lives, depends perhaps on mere chance perusal of some *ex parte* statement or an article in an encyclopædia.

Abstracts from Current Medical Literature.

PATHOLOGY.

(82) Preservation of Cholera Stools.

G. S. Panganiban and O. Schöbl (*Philippine Journ. Science*, Sect. B., September, 1918) have devised a method of preserving the stools of patients suffering from cholera for a sufficient length of time as is necessary to transport the specimen from its source to a laboratory equipped for the bacteriological diagnosis of cholera. They point out that practical sanitarians lay stress on the bacteriological diagnosis of Asiatic cholera, and that it has become known generally that the detection of cholera carriers can be accomplished by a proper examination of fæces. Laboratory methods are so reliable that a small number of cholera vibrios can be discovered in fæces. The rapid disappearance of the cholera vibrios in fæces at summer temperature in the presence of other intestinal bacteria probably accounts for the failure to isolate the comma bacillus when the examination of fæces is delayed for some days. The authors tested three substances as preservatives: glycerine, which had been found useful in the delayed examination of typhoid stools; sodium chloride, which is the chief saline constituent of seawater, in which cholera vibrios live more than 100 days; and bile, in which cholera vibrios live indefinitely. The experiments were conducted at 32° C.. The effects of the addition of different amounts of the three probable preservative substances to an artificial cholera stool, on the time of survival of the cholera vibrios were compared with the time of survival of the cholera vibrios in the stool diluted similarly with normal saline solution (0.6%). The salt solution thus served as *tertium comparationis* and permitted fair comparisons to be drawn from the experiments conducted at separate times. The results showed that glycerine had no preserving action on the vibrios. In concentrations of 20% and 25% glycerine, the vibrios survived four days only, while in 30% glycerine no cholera vibrios were found after 48 hours. The cholera vibrios were sought by inoculating three loops into tubes of peptone water from which Dieudonné's plates were made in 24 hours. The colonies on the plates were tested by microscopical examination and agglutination reactions. Sodium chloride in concentrations from 0.5% to 5.0%, preserved the comma bacilli for five weeks, although strengths from 10% to 30% destroyed the bacilli in 96 hours. Bile, either pure or in 50% aqueous solution, maintained the vitality of the comma bacilli for five weeks. A comparative study of the influence of sodium chloride and bile in preserving fæces containing decreasing numbers of cholera vibrios showed that bile was superior to sodium chloride in this respect.

(83) Experimental Chronic Blastomycosis.

H. W. Wade (*Philippine Journ. Science*, Sect. B., September, 1918) states that cutaneous lesions follow primarily the inoculation of monkeys with *Blastomyces dermatitidis*, Gilchrist and Stokes, by subcutaneous or intramuscular injection. The pulmonary lesions are metastatic and acute. They consist of small, circumscribed abscesses or granulomatous nodules. Metastasis to the lungs has been almost constant and often extensive, but metastases have been comparatively uncommon in other viscera. The appearances have been different from the chronic pulmonary affection in human cases of blastomycosis. The author has succeeded in producing the human type of the disease in one monkey. This animal, full-grown and later found to be pregnant, was inoculated with the yeast on the right side of the belly. A small abscess developed at the site of the injection and the inguinal lymphatic glands became enlarged. Three months later the monkey, which seemed in good health, was delivered of a normal offspring. Three months later the monkey was noticed to be thin. Six weeks afterwards it died. At autopsy the lungs showed chronic pulmonary blastomycosis, with cavitation. Both lobes of the lungs were adherent and lesions in adjacent lobes had become continuous. The cavities were lined with grey necrotic material, with an unpleasant odour. The walls were of variable thickness, fibrosed in places, but, for the most part, actively granulomatous. The author concludes that similar pulmonary metastasis from a primary focus occurs in human cases and that the original peripheral lesion disappears.

(84) Epidemic Parotitis.

M. Wollstein (*Journ. Exper. Medicine*, October, 1918) had shown in 1915 that cats, injected into the testicle and parotid gland with the sterile filtrate of the saliva of children in the active stage of mumps, develope enlargement of the testes or parotid glands. These swellings resembled in several ways those present in mumps in human beings. She has made some new observations and experiments with material obtained from patients suffering from acute parotitis in the military camps near New York City. Mouth washings from soldiers affected with epidemic parotitis from one to twelve days have been filtered through a Berkefeld candle, N, and the filtrate, which has been found sterile by ordinary aerobic and anaerobic methods of culture, has been injected into the parotid glands of healthy, half-grown cats. The cats become ill after an incubation period of five to eight days. The swelling lasts about eight days, when it declines. Four series of experiments have been performed. In the first series inoculations have been made with saliva from soldiers who had been ill the same number of days. The cats have become affected with material collected until the ninth day of the soldiers' illness. Saliva collected on the ninth, tenth, eleventh and twelfth days of the attack of epidemic parotitis has been without power of infecting cats. In the second series the saliva of the infected cats has been injected into cats. It has been found infective at the end of the second week after inoculation, that is, at the height of the symptoms. Control injections with the saliva of normal cats have been without effect in exciting parotitis. In the third series blood from patients in whom constitutional symptoms have been considerable, has been defibrinated and injected into the parotid gland and testis. The swelling of the parotid gland and testis has occurred in the cat. The blood was collected from a vein in the arm on the third day of the disease. Another experiment with blood taken on the third day was successful in transmitting parotitis, but no infection followed the injection of blood withdrawn on the fifth day of the disease. Controls with normal blood produced no parotitis. Cultures made upon agar plates and in glucose broth have yielded no growth of bacteria with any of these samples of blood. In the fourth series injections have been made with salivary secretion from a patient suffering from recurrent parotitis. The primary attack occurred in November, 1915, and the recurrent attack commenced in the middle of March and lasted until the beginning of May. Three injections have been made into cats, one with material collected on March 13, another with saliva collected on May 1, and the third with similar material on May 15. The first two injections have given rise to parotitis, but not the third.

(85) Culture of Pfeiffer's Bacillus from Sputum.

E. E. Ecker (*Journ. Amer. Med. Association*, November 2, 1918) describes the isolation of *Bacillus influenzæ* from human sputum. When sputum is plated on human blood agar the colonies of the bacillus of Pfeiffer are hidden by the overgrowth of pneumococci, staphylococci and other microbes. The author mixes the sputum with 0.5% sodium torocholate solution. When the mixture has stood for twenty minutes or longer streaks are made upon human blood agar plates. After incubation for twenty hours at 37° C. the colonies of Pfeiffer's bacillus appear as minute, colourless, translucent and droplet-like colonies. The organisms stain with an aqueous solution of fuchsine, are not stained with Gram's method and form irregular clusters with no definite arrangement. The subcutaneous injection of these cultivated germs into mice proves fatal in six or seven hours. The *Bacillus influenzæ* can be cultured from the blood of the hearts of these mice. Bile or biliary salts can be used in the same way to dissolve pneumococci and to inhibit the multiplication of the other accessory micro-organisms.

UROLOGY.

(86) The Urological Significance of Bilharziosis.

F. C. Madden publishes in *The Urological and Cutaneous Review* (December, 1918) a valuable account of bilharziosis, as met with in Egypt, directing his remarks particularly to the con-

dition of the genito-urinary tract in these infections. He lays stress on the characters of the worm, on its structure and on the structure of its ova. These details are of paramount practical importance, because the diagnosis of the condition at a stage when treatment may result in amelioration or cure depends upon their recognition. It is necessary to recognize that the small, immature worm, uncoupled, inhabits the radicles of the portal vein within the liver. In the main trunk, or just beyond it in the mesenteric veins, the larger and sexually mature individuals are found. The couples paired progress against the blood stream, helped probably by the strong muscular movements of the male worm. They eventually become deposited or infarcted in the fine venules in the sub-mucous layers of the organs supplied by the portal system, and may even enter the general circulation through the hæmorrhoidal veins and pass on to the lungs. The ova are laid either in the liver or in the portal vein and are carried through the portal radicles to the inferior vena cava and are eventually arrested either in the pulmonary or in the general systemic circulation. The worm itself produces nothing more than a mild endophlebitis. There may be some associated eosinophilia. The other blood changes are referable to complications, such as sepsis or hæmorrhage. When coupled worms are arrested in the larger blood vessels of the sub-mucous tissue of the bladder and eggs are laid in large quantities, the finer vessels become literally stuffed with these ova. Some of the ova are found outside the vessels and all act as foreign bodies. Their movements are directed chiefly towards the surface, from which they may escape to complete their life cycle. Many ova insinuate themselves between the epithelial cells or pass through a broken basement membrane. Others stream out into the cavity of the bladder through tiny abrasions of the surface epithelium. The epithelial cells undergo hyperplasia, with a resulting general thickening of the layer. Beneath this there is an irritative round-celled infiltration, which may either degenerate or become converted into scar tissue. The infiltration of the inner coats of the bladder with cells and ova is unevenly distributed. The mucous membrane assumes a dull red, soft, velvety character, which is easily abraded and which bleeds readily. The site most frequently involved to a considerable extent is the neck of the bladder. In these circumstances the terminal hæmaturia is explained. Many of the ova become calcified and appear through the mucous membrane as brownish-yellow grains. This gives the appearance of wet sea sand to the deeper layers of the mucosa. The membrane is so much swollen and thickened that it is thrown into large folds and may be stripped off from the deeper layers with ease. The author proceeds to give a minute description of the development of papillomata, which consist of thickened epithelium, enclosing masses of ova. He also indicates the origin of calculi, which are very frequent associates of bladder bilharziosis. When the *Schistosomum* invades the ureters and kidneys, similar lesions to those found in the bladder arise. The ureters become obstructed and, as a result, thickening, dilatation and tortuosity occur as compensatory changes. In the kidneys papillomata, as well as diffuse infiltration, are met with in the pelvis and calyces. Hydronephrosis arises from the involvement of the ureters, while phosphatic calculi are frequently formed. In extreme cases the bladder, ureters and kidneys are involved in a general septic process, and the kidneys may disintegrate until all that is left is a bag of pus with septic perinephritis and cellulitis extending into the pelvis. The male generative organs are frequently involved. Urinary fistula and general infiltration of the mucous membrane of the urethra are common. The glans, prepuce and urethra may be involved in the infection and the lymphatic circulation in the penis may become obstructed, leading to a characteristic bulbous swelling of the organ. In extreme cases a condition not unlike elephantiasis may arise. Superficial ulceration of the glans occurs at times and may terminate in rapidly spreading epitheliomatous ulceration. The *corpus spongiosum* and even the *corpora cavernosa* may be infiltrated. Fibrous nodules are met with in the spermatic cord and in the epididymis. The prostate may also be infiltrated by living ova, or may be involved with calcified ova. In the female the infiltration may involve any portion of the mucous membrane. Papillomatous masses, fibro-adenomatous nodules and ulceration are commonly met with and the fibroid changes may lead to the functional destruction of the ovaries and tubes. The diagnosis of bilharziosis in Egypt is a simple matter. The condition is so common that practically all genito-urinary disease is traced to this cause. In the early stages hæmaturia should be looked for. The Egyptian is apparently loath to admit the existence of this symptom. At times no symptom appears until the disease is well established. It is not uncommon to find bilharzia ova in the urine in apparently healthy school children. Cystoscopic examination is very important. Madden raises the question in dealing with the prophylaxis of the condition, whether infection through the skin occurs or whether the miracidia enter through the mucous membrane of the urethra, through the mucous membrane of the nose and mouth and with the food through the stomach. Satisfactory prophylaxis is practically impossible, owing to the fact that the majority of the agricultural labourers cannot be removed from the sources of infection and can scarcely be expected to adopt the stringent measures necessary to render an infection impossible. In early infections intravenous injections of perchloride of mercury are said to do good. Once the condition is well established, the treatment becomes difficult. Male fern, urotropine and buchu are advocated. The remainder of the treatment depends upon the local conditions.

(87) Retrograde Movements of Ureteral Calculi.

Herman L. Kretschmer holds the opinion that it is rare for a skiagram to fail to demonstrate a ureteral stone, and that since the introduction of the shadowgraph catheter and ureteropyelography, extra-ureteral shadows can be differentiated from shadows produced by ureteral calculi (*Journ. Americ. Med. Assoc.*, October 26, 1918). On the other hand, a stone may be localized definitely by skiagram, and yet when the operation is performed it cannot be found. Subsequent examination with X-rays demonstrates that the stone has wandered back toward the kidney along the ureter. He records the history of a case in which he was saved from exploring the wrong portion of the ureter by taking the precaution of having a further skiagram prepared immediately before the patient was moved into the operation room. He also gives the history of another case, in which a series of skiagrams revealed the wandering of the calculus along the ureter. He endeavours to explain the retrograde movement. In the first place, when the ureter is dilated, the stone may fall in either direction, according to the position of the patient. This explanation, he states, has been proved to be correct in some cases. The second theory is based on the assumption of a reversed peristalsis. Reversed peristalsis was first demonstrated by Semblinoff in 1883. Others have investigated this phenomenon, and have shown that mechanical stimulation of the bladder produces antiperistaltic movements of the ureter. He gives a short résumé of cases reported in the literature.

(88) Carcinoma of the Bladder.

Benjamin S. Barringer (*New York State Journ. of Med.*, November, 1918) considers that radium is superior to surgery in the treatment of cancer of the bladder. He points out that the bladder is an empty viscus, somewhat inaccessible and difficult of surgical approach. The trigone and neck of the bladder are the most frequent sites of tumours, and these situations are the most difficulty to reach surgically. The bladder is in constant motion; this complicates the process of healing. On the other hand, radium can be applied with ease to any part of the bladder and the urine constantly flowing into the bladder acts as a stream to the normal parts of the organ. He recognizes two types of carcinoma of the bladder, the papillary type, growing into the bladder, and the flat, indurative type, growing through the bladder wall into the surrounding tissue. As the former type does not readily invade the bladder wall, it may be confined to its site of origin for years. The papilliary type is much more common than the indurative type. He records 43 cases, of which only two were early operable cases. Both these patients recovered and, in addition, he claims a cure for five of the 41 advanced cases. He appends brief clinical notes of each of these seven cases. In conclusion, he adds that three or four of the remaining cases may eventually prove to have been cured.

Medical Societies.

NORTHERN DISTRICT MEDICAL ASSOCIATION (NEW SOUTH WALES).

(Affiliated with the New South Wales Branch of the British Medical Association.)

The annual meeting of the Northern District Medical Association was held at Tamworth on January 29, 1919, Dr. G. M. Farrell, the President, in the chair.

After the Honorary Secretary's report and the Honorary Treasurer's financial statement had been read and adopted, the following were elected office-bearers and members of the Committee for the ensuing year:—

President: Dr. L. M. Snow (Tamworth).

Vice-President: Dr. A. J. Corfe (Glen Innes).

Honorary Secretary and Treasurer: Dr. E. W. Buckley (Tamworth)).

Members of Commmittee: Dr. R. Balls, Dr. C. A. F. Clark, Dr. T. S. Douglas, Dr. R. M. Farrell, Dr. H. L. Harris, Dr. W. E. Harris, Dr. R. M. Kinross, Dr. J. Mackenzie, Dr. T. P. McKell, Dr. B. L. Middleton, Dr. E. L. Newman, Dr. A. J. Park, Dr. W. Ritchie, Dr. C. H. Scott, Dr. G. P. Stanley, Dr. R. Roger, Dr. F. S. Stuckey, Dr. M. M. Vernon and Dr. F. H. Wrigley.

Delegate and Representative on New South Wales Branch Council: Dr. L. E. Ellis.

Honorary Auditor: Dr. J. P. Sexton.

Naval and Military.

APPOINTMENTS.

The following appointments, promotions, etc., have been published in the *Commonwealth of Australia Gazette*, No. 28, of February 27, 1919: —

Australian Imperial Force.

First Military District.

Culpin, Major E., from 5th Field Ambulance, to command 12th Field Ambulance, and to be temporary Lieutenant-Colonel whilst so employed. Dated 20th November, 1918.

Second Military District.

Parkinson, Major C. K., M.C., Australian Army Medical Corps, to be Deputy Assistant Director Medical Services, 5th Australian Division, *vice* Major J. A. James, to regimental duties. Dated 18th November, 1918.

Savage, Major V. W., from 3rd Field Ambulance, to command 6th Field Ambulance, and to be temporary Lieutenant-Colonel whilst so employed, *vice* Lieutenant-Colonel H. L. St. V. Welch, D.S.O.. Dated 7th November, 1918.

Fairfax, Major E. W., Australian Army Medical Corps, to be Consulting Physician, 5th Army, and to be temporary Colonel whilst so employed. Dated 19th November, 1918.

Third Military District.

Chambers, Lieutenant-Colonel R. W., Australian Army Medical Corps, is granted 1914 furlough with effect from 1st October, 1918, to 14th December, 1918, and leave of absence without pay and allowances with effect from 15th December, 1918, to 30th September, 1919. This cancels notification regarding this officer which appeared in Executive Minute No. 19/19, promulgated in *Commonwealth of Australia Gazette*, No. 3/19.

Doig, Captain K. McK., M.C., 1st Australian General Hospital, to be Registrar, and to be temporary Major whilst so employed, *vice* Major J. S. Verco. Dated 30th October, 1918.

Langlands, Major (temporary Lieutenant-Colonel) F. H., Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 6th November, 1918.

Lee, Major H. V., D.S.O., M.C., Australian Army Medical Corps, to be Deputy Assistant Director Medical Services, 1st Australian Division, *vice* Major W. J. Stack, D.S.O., to regimental duty. Dated 11th November, 1918.

Morlet, Major C., from 13th Field Ambulance, to command 2nd Field Ambulance and to be temporary Lieutenant-Colonel whilst so employed, *vice* Major (temporary Lieutenant-Colonel) E. F. Lind. Dated 5th November, 1918.

Nott, Major (temporary Lieutenant-Colonel) H. C., 1st Australian General Hospital, to be Senior Medical Officer, Australian Base Depôt, and to command 1st Australian Convalescent Depôt, and to retain the temporary rank of Lieutenant-Colonel whilst so employed. Dated 22nd November, 1918.

Embelton, Major D. M., 1st Australian General Hospital, Australian Army Medical Corps, to be temporary Lieutenant-Colonel. Dated 5th November, 1918.

Woollard, Major H. H., Australian Army Medical Corps, to be Senior Medical Officer, Sutton Veny Area, and to be temporary Lieutenant-Colonel whilst so employed, *vice* Major (temporary Lieutenant-Colonel) H. J. Williams, D.S.O.. Dated 20th November, 1918.

Fourth Military District.

Burston, Lieutenant-Colonel S. R., D.S.O., Australian Army Medical Corps (now Senior Medical Officer, Australian Base Depôts, and Officer Commanding 1st Australian Convalescent Depôt), to command 3rd Australian General Hospital, and to be temporary Colonel whilst so employed. Dated 22nd November, 1918.

Wall, Major F. L., M.C., Australian Army Medical Corps, to be Deputy Assistant Director Medical Services, 2nd Australian Division, *vice* Major D. M. Embelton. Dated 10th November, 1918.

Fifth Military District.

Sawers, Major W. C., Australian Army Medical Corps, to command 14th Field Ambulance, and to be temporary Lieutenant-Colonel whilst so employed, *vice* Lieutenant-Colonel C. W. Thompson, M.C., to Australia on furlough. Dated 4th November, 1918.

Sweet, Major W. S., Australian Army Medical Corps, having been found permanently unfit for war service at home or abroad, his appointment in the Australian Imperial Force is terminated. Dated 21st November, 1918.

Sixth Military District.

Mattei, Major, C., Australian Army Medical Corps, to be temporary Lieutenant-Colonel. Dated 20th November, 1918.

APPOINTMENTS TERMINATED.

Third Military District.

Lieutenant-Colonel B. Quick, D.S.O.. Dated 17th January, 1919.

Major H. I. Carlile. Dated 29th January, 1919.

Fifth Military District.

Captain W. E. Blackall. Dated 15th February, 1919.

Australian Military Forces.

The following promotion has been made for specially meritorious service during the present war. Dated 1st January, 1919:—

Captain H. S. McLelland, Australian Army Medical Corps.

We learn that Captain Arthur Martel Aspinall, Australian Army Medical Corps, of the No. 2 Australian Stationary Hospital, has been mentioned in despatches.

Hospitals.

THE ROYAL PRINCE ALFRED HOSPITAL.

On September 16, 1918, the Directors of the Royal Prince Alfred Hospital of Sydney presented to the annual meeting their report for eighteen months, from January 1, 1917, to June 30, 1918. During this period 9,928 persons were admitted to the wards. There were 358 patients still under treatment on June 30, 1918, as compared with 352 patients who were under treatment on the first day of January, 1917. The number of patients who were discharged was 9,348, and of those who died 574. The mortality, calculated according to the usual formula, was 5.78% and not 4.5%, as stated in the report. The lower figure is arrived at by deducting deaths of persons within 24 hours of admission and by calcu-

lating on the total number of patients under treatment. The average number of patients in the wards was 377.19 and the average length of stay in the hospital per patient was 21.51 days. No less than 49,082 patients were treated in the Out-patients Departments. It is pointed out that 76.9% of the patients admitted during the six months of the year 1918 were submitted to operation. In 1883 only 13.75% of the patients underwent operations. The frequency of surgical intervention rose steadily during the succeeding twenty years until nearly three-quarters of the patients were treated by the surgeon's knife. Since 1904 there has been but a slight increase in this activity.

During the course of the eighteen months the Board decided to close up the "cottages" or wards for persons suffering from infectious diseases, on the ground that these wards, in their peculiar environment, were unsuited to their purpose. The patients, on the closure of the wards, were sent to the Coast Hospital. The Board, however, is desirous of having a properly-planned isolation block, more particularly for the satisfactory accommodation of patients suffering from septic infection.

The clinic set aside for the treatment of persons suffering from venereal diseases represented a very busy portion of the hospital. In 1916 it was determined that not more than 200 patients should be under treatment at any given time, since the accommodation provided and the staff were inadequate for a larger number of persons. In association with this clinic were 30 beds set aside for women and children suffering from venereal diseases. It is worthy of note that, while the Government pays £5,000 out of the ratepayers' pockets towards the expenses of this department, provision for the treatment of patients in excess of the 200 is not made. The Directors call attention to the urgent need for further accommodation within the metropolitan area. We presume that after the regulations under the *Venereal Diseases Act, 1918,* have been issued and brought into force, ample accommodation for all persons suffering from venereal diseases will be provided throughout the State.

Brief reference is made to the activity of the Anti-tuberculosis Dispensary, but, as the report is issued for public digestion and not as a medical record, the details of this activity are not disclosed. Similar references are made to the work in the Pathological Department, the X-ray Department and the Medical Gymnastics Department.

During the latter months of 1917 the Department of Defence made use of the hospital for the accommodation of disabled soldiers requiring treatment. For this purpose 100 beds were set aside for military patients and, at a later date, the number was increased to 120. According to the arrangement between the Department and the Directors, the former undertook to pay 7s. per patient per day and to undertake that at least 80 beds would be in daily occupation. The hospital, on the other hand, was required to provide maintenance and treatment for the patients. A sum of £2,500 was advanced for the purchase of the necessary equipment. It was agreed that at the termination of these arrangements the hospital should purchase from the Department the various articles obtained at a valuation price.

In the paragraph dealing with the honorary staff, a suitable reference is made to the serious loss incurred by the hospital by the death of Lieutenant-Colonel Froude Flashman. Several members of the staff were on active service abroad during the whole period covered by the report; others returned from active service during the eighteen months, while yet others proceeded with the Australian Imperial Force to France and elsewhere during this time. Ill-health deprived the hospital of the services of five members of the staff for a considerable time.

The Board has gradually come to the conclusion that it was detrimental to the interests of the hospital that the Medical Superintendent should serve for a short period. Up to 1911 medical practitioners held the position for a period averaging three years, while since that date the tenure of office has been shortened to under two years. In April, 1917, Dr. H. J. Clayton completed two years of service as Medical Superintendent, and was about to leave the hospital. He was then married, and was making arrangements to enter into private practice. The Board thereupon determined to invite Dr. Clayton to enter into a five years' contract at a considerably enhanced salary. The offer was accepted, and the Board has every reason to be satisfied with the new arrangements.

The remainder of the report deals generally with the *personnel* of the resident medical staff, the social service department, the ambulance work, the work of the nursing staff and kindred matters.

The income for the eighteen months from all sources amounted to £82,093. The Government contributions aggregated £57,185. This represents 69.6% of the total income. The patients' contributions amounted to £11,126, of which £9,650 was paid by indoor patients. The ordinary expenditure amounted to £87,602, which represents £2 19s. 4d. per patient per week. The number of contributing patients during the eighteen months was 4,507; the amount they contributed was £9,650, and the average payment made per week was just under 14s. per patient. The charitable public contributed £8,379, while the balance of the income was derived from interest on invested funds and similar sources. It is regrettable that the expenditure exceeded the income by £7,764.

On September 16, 1918, a public meeting was held to discuss "the desirability of raising a Prince Alfred Jubilee Fund to celebrate the jubilee of the foundation of the hospital." The meeting, which was practically a continuation of the annual meeting, adopted the suggestion and appointed a committee to carry it into effect. Subsequently the committee determined to appeal to the public for 200,000 half-crowns. It was pointed out that since the cost of maintenance of the hospital was half a crown a minute the appeal should be worded in terms of this coin, rather than in the more usual pound. An Art Union Committee, a Badge Committee, a Donations Committee, an Entertainments Committee, a District Organization Committee and a Publicity Committee were appointed. We understand that these committees are now working energetically, and that they have secured the sympathy of the public.

Three candidates have been nominated for election by convocation as members of the Senate of the University of Western Australia. There are two vacancies. The election takes place as we go to press. The nominating candidates are Dr. Roberta Henrietta Margaretta Jull, the Honourable Sir Walter Hartwell James, K.C., and Professor Alexander David Ross, D.Sc., F.R.S.E.

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending February 22, 1919:—

	Metropolitan Combined District.		Hunter River Combined District.		Rest of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever ..	9	0 ..	1	2 ..	16	4 ..	26	6
Scarlatina	16	0 ..	1	2 ..	16	0 ..	33	2
Diphtheria	13	1 ..	3	0 ..	25	1 ..	41	2
*Pul. Tuberculosis	14	12 ..	1	0 ..	0	1 ..	15	13
C'bro-Sp'l Menin.	1	1 ..	0	0 ..	0	0 ..	1	1
Influenza	43	3 ..	0	0 ..	3	2 ..	46	5

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending February 23, 1919:—

	Metropolitan.		Rest of State.		Total	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever	0	0 ..	2	0 ..	2	0
Scarlatina	8	0 ..	14	0 ..	22	0
Diphtheria	34	0 ..	23	0 ..	57	0
Pulmonary Tuberculosis	15	5 ..	2	3 ..	17	8
Poliomyelitis	1	0 ..	0	0 ..	1	0
Puerperal Fever	1	0 ..	1	0 ..	2	0
Influenza	—	— ..	—	— ..	731	99

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending February 22, 1919:—

Diseases.	No. of Cases.
Enteric Fever	26
Scarlatina	4
Diphtheria	27
Pulmonary Tuberculosis	4
Cerebro-Spinal Meningitis	1
Poliomyelitis	5
Erysipelas	3
Puerperal Fever	1
Pneumonia	12

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the week ending February 15, 1919:—

	Adelaide.		Rest of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever	0	0	17	1	17	1
Scarlatina	1	0	28	0	29	0
Diphtheria	3	1	12	0	15	1
Pulmonary Tuberculosis	0	0	8	3	8	3
Erysipelas	1	0	1	0	2	0
Morbilli	1	0	10	0	11	0
Pertussis	1	0	12	0	13	0
Influenza	0	0	6	0	6	0
"Gastric Influenza"	0	0	9	0	9	0
Suspicious Influenza	0	0	1	0	1	0

TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending February 15, 1919:—

Diseases.	Hobart. Cases.	Launceston. Cases.	Country. Cases.	Whole State. Cases.
Enteric Fever	1	0	4	5
Scarlatina	0	2	0	2
Diphtheria	0	5	6	11
Pulmonary Tuberculosis	1	1	2	4

WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending February 8, 1919:—

	Metropolitan. Cases.	Rest of State. Cases.	Totals. Cases.
Enteric Fever	5	4	9
Scarlatina	7	0	7
Diphtheria	5	6	11
Pulmonary Tuberculosis	5	7	12
Septicæmia	0	1	1
Malaria	1	0	1

THE HEALTH OF TASMANIA.

Dr. C. L. Park, recently the Chief Health Officer of Tasmania, has issued his report for the year 1917-1918. This report contains a very large amount of important information, compressed into the small space of 22 foolscap pages. Some of the data given below appears in the seven appendices attached to the main report.

Vital Statistics.

The mean population for the year 1917 is estimated at 198,924, which represents an increase of 760 for the year. The birth-rate in the State during 1917 was 27.03 per 1,000 of population, as compared with 28.94 and 28.47 in 1906 and 1916 respectively. Tasmania takes an intermediate position among the Australian States. The birth-rate was highest in Queensland in 1917 (29.09) and lowest in Victoria (23.5). In the Federal Territory and the Northern Territory, however, the rates were considerably lower. The birth-rate for the Commonwealth was 26.51. In 1917 Tasmania enjoyed the position of having the lowest death-rate of the six States. It was 8.89 per 1,000 of population. In 1906 it was 10.91 and in 1916 it was 10.38. The death-rate during 1917 exceeded 10 both in South Australia and in Victoria.

In regard to the causes of death, tuberculosis killed 123 persons, which is equal to a death-rate of 6.13 per 10,000 of population. The next most common infective process of which details are given, was diphtheria, the death-rate of which was 1.86 per 10,000. Enteric fever was responsible for 17 deaths, or 0.85 per 10,000, syphilis for seven deaths, influenza for six, pertussis for five, dysentery for four and measles for one. The number of deaths from cancer was 155. During the period covered by the report there were 163 cases of enteric fever notified and 18 deaths, 759 cases of diphtheria notified and 32 deaths. The death-rates from pulmonary tuberculosis and from other forms of tuberculosis have varied considerably during the past ten years. The death-rate from pulmonary tuberculosis was highest in 1908 and exceeded 50 per 100,000 persons living in 1908, 1913, 1915 and 1916. In 1911 it was 23, while in 1917 it was 46. The death-rate from all forms of tuberculosis, however, has shown a more or less steady decline during the past ten years.

Public Health Legislation.

The *Health Act* was amended in December, 1917, the amending Act enlarging the powers of the Department in several directions. One provision was contained enabling the Department to deal with carriers in the same manner as they were empowered to deal with persons suffering from infective diseases. In the next place, the local authority was empowered to carry out repairs and structural alterations in cases of nuisances at the expense of the occupier and owner. Wider control was given to the Chief Health Officer in regard to the licensing of noxious trades and he was also empowered to investigate default on the part of the local authority in carrying out duties imposed by the Act. The regulations under the Act, which came into force on February 26, 1918, provided for the holding of a bi-annual inspection of premises, an inspection of premises from which an infectious case had been reported and an enquiry into the source of infection, the isolation of patients, disinfection of premises infected, power to examine inmates of infected premises suspected of carrying infection, power to control carriers of disease and contacts of patients, disinfection of premises, the examination of secretions of persons suffering from enteric fever prior to their release from hospital, power to detain persons suffering from diphtheria until the bacteriological examination of the faucial mucus proved negative, a mandate to the local authorities to provide diphtheria antitoxin for use as a prophylactic, machinery to prevent the spread of disease after the death of a patient and various means of controlling the milk and food supply to the population.

The *Food and Drugs Act* was also amended. The chief points of the new Act are that the employment of a person suffering from infectious disease in the handling of foods or drugs for sale is prohibited, the sale of unwholesome food is made an offence and the municipal councils are empowered to submit for analysis certain articles of food and drugs. The regulations published in connexion with this Act correspond to a greater or lesser extent to those issued under the *Food and Drugs Acts* of other States. The same artificial standard for the composition of human milk is included. We have on several occasions pointed out that Nature takes a much more liberal view of milk than do the health authorities.

Dr. Park points out that, although the *Public Health Act, 1917*, dealing with venereal disease, has been in operation for a very short time, sufficient experience has been gained to show that it would be wise to substitute for the general prohibition a list of drugs which a pharmacist may not sell without a prescription from a medical practitioner. It will be remembered that in the regulations adopted under the Victorian Act such a list of drugs has been included. He also suggests that an amendment should be introduced, rendering it necessary for a patient to notify the Department that he has obtained treatment when ordered to do so in accordance with Section 41 of the *Health Act*.

In 1910 a *Notification of Births Act* was included in the

book of statutes. No municipality has yet adopted its provisions.

Local Health Administration.

Dr. Park criticizes the system which the municipal authorities have been more or less compelled to co-operate in the administration of health matters generally. He points out that, under existing conditions, the councils of the small municipalities are compelled to place into the hands of one officer duties of the most diverse kind. This necessarily results in the neglect of sanitation in many areas. In some instances the councils recognized that improvements should be introduced, while in adjoining areas matters were allowed to remain as they were. He suggests that if the municipal council were relieved of the responsibility of deciding what expenditure was necessary in matters of sanitation and health administration, more uniform progress could be attained. It might be advantageous if in adjoining districts the municipal authorities combined to employ a properly-trained sanitary inspector. With the idea of educating these councils and their inspectors a conference was arranged, and took place in the second week of December. Twenty-seven sanitary inspectors were sent by their respective councils, and a full week was spent by them in attending practical demonstrations of sanitary method and lectures. The instruction given at the conference was recognized by the Board of Examiners as part of the course required for the certificate of Inspector of Nuisances issued by the Royal Sanitary Institute.

In dealing with the water supply of Tasmania the Chief Health Officer points out that in eight districts the water is obtained from upland surfaces. This water is said to be free from organic pollution. Water from rivers or creeks is used in 18 districts. This water is liable to pollution. The water supplying Deloraine, Launceston and Longford is especially in danger in regard to contamination by surface or town drainage, while that at Wynyard is exposed to the risk of human or animal soiling. In 22 districts water is obtained by roof catchment. The Chief Health Officer refrains from discussing the amount of supply, the chemical and bacteriological content of the water and the possible remedies to minimize or remove the existing defects.

In regard to the disposal of night-soil, he records the fact that a water-borne service is installed in six districts only. It is only partial in some of these districts. A double pan service is used in 24 districts, and in 18 the disposal of night-soil is left to the individual householder. Dr. Park refers briefly to the essential dangers of infrequent removal of night-soil and of the lack of control exercised in certain districts where no removal system is in vogue.

Satisfactory provision for removal of household garbage exists only in ten districts. The service is not even compulsory in some of these ten districts. In other areas a public tip is at times provided, but with few exceptions the putrescible material is neither burnt nor covered. The tip in Hobart is said to be badly rat infested, and an incinerator is urgently needed in this city.

While the majority of the municipalities provide their inspectors with automatic sprays and with disinfectants, no means are adopted to instruct them in regard to the proper method of carrying out disinfection and the limitations of these methods. Practical demonstrations were held at the sanitary conference to equip the inspectors with a satisfactory knowledge of disinfection.

In the preceding year a report was made concerning the housing conditions in the mill towns in the Municipality of Esperance. As a consequence of this investigation, house-to-house inspection was instituted at Hastings during the year under review. Some houses were condemned as unfit for occupation, and certain specified improvements were insisted on. Some of these improvements have been carried out. The housing conditions in the neighbourhood of the hop-fields of New Norfolk were investigated. Only a few of the houses were found to be unsatisfactory. In many cases, however, the number, position, structure and condition of the privies were held to be unsatisfactory. By-laws have been drawn up, with the object of preventing the contamination of water intended for domestic purposes by the water carried along open irrigation drains in the hop and small fruit districts. It is indicated that no regulations compelling the employer to supply satisfactory water for drinking purposes and proper privy accommodation can yield satisfactory results unless the pickers are induced to co-operate.

Control of Food and Drugs.

The Department was enabled to place the work of inspecting premises in which food was offered for sale or was prepared and of collecting samples for analysis, in the hands of a special inspector. Twenty districts were visited and 106 samples submitted for analysis. In 43% it was found that the food was below standard. The municipalities were asked to submit samples, and complied with this request. The Chief Health Officer calls attention to the defence of a person who was recently charged in another Australian State with selling articles of food below standard. It was that the consignment was intended for Tasmania. It appears that measures are being taken to apply the provisions of the *Foods and Drugs Act* more energetically than heretofore. Attention is directed to some of the defects obtaining in the dairy industry, especially in the Hobart district. The condition of some of the dairies was so bad that contamination of the milk could not have been prevented. Milking cows in the open was found to be not uncommon.

Noxious Trades.

Apparently there has been considerable difficulty in regard to the carrying on of noxious trades, such as blood drying and the boiling down of offal, but hitherto no areas have been proclaimed for this purpose. Reports were prepared on the suitability of certain areas for this purpose in Hobart. In the Clarence Municipality two firms were allowed to manufacture manure and to carry on boiling down works.

Infective Diseases.

The Chief Health Officer deals more or less theoretically with the regulations issued under the *Health Act*, especially in regard to the examination of the excretions of enteric fever patients before discharge and the continued isolation of patients suffering from diphtheria until their fauces are shown to be free from diphtheria bacilli. He does not indicate the extent to which these regulations have been carried out, nor the immediate result of these measures. In regard to the question of the responsibility for the isolation and maintenance of persons suffering from notifiable diseases, he has some interesting observations to make. In Hobart the City Council pays one-half of the cost when patients are placed in the Infectious Diseases Hospital, and the Government pays the other half. Patients from neighbouring municipalities are admitted to this Hospital on the payment of a daily charge. In other cases the Hospital for Infectious Diseases is associated with the general hospital of the district. A daily charge is made for maintenance. The municipality has power to recover the cost of maintenance from the patients or their guardians, but in several instances no endeavour is made to carry this out. It is pointed out that the removal to the hospital is effected for the purpose of protecting the remainder of the family and the general public, and, further, that this measure is rendered more necessary when the home conditions are unsatisfactory. The Chief Health Officer therefore holds the opinion that the individual should not be called upon to pay, unless he could well afford to do so. If the expenses were borne by the local authority, the rate-payer, who is protected, would contribute. It has been shown that in many districts a rate of less than one penny would suffice for this purpose, while in only two townships would more than one penny be required. He deprecates the practice of setting aside a portion of the general hospital for infectious cases, except in the case of very small institutions. He also holds the opinion that an isolation hospital in a city should be under the control of the medical officer of health and the power of admitting or discharging patients should be vested in him without any interference on the part of the local authority.

Cerebro-Spinal Meningitis.

By the removal of epidemic cerebro-spinal meningitis from the list of dangerous diseases and its inclusion among infectious diseases, the responsibility of control has been imposed on the local authority. There is no accommodation for patients suffering from this disease in either of the public hospitals in Hobart or Launceston. Small institutions, how-

ever, have been provided in the neighbourhood of both these cities in case of need. The epidemic of 1916-1917 has apparently died out during the course of the year under review.

Tuberculosis.

Dr. Park points out that the number of cases of pulmonary tuberculosis notified was nearly 22% lower than that of the preceding year. The reduction in numbers affected the city of Hobart more than any part of the State. The total sanatorium accommodation was for 24 civilian patients and 20 military patients. It is proposed to extend this to accommodate 28 additional patients in an advanced stage of the disease. No details are given in regard to the working of the New Town Sanatorium.

Diphtheria.

During the course of the twelve months 759 cases of diphtheria were notified. The figures for the two preceding years were 850 and 1,079. The diminution in the incidence of this disease has not been uniform. In the year 1916-1917 137 and 135 cases were notified in Hobart and Launceston respectively, while the figures for the year covered by the report were 78 and 192. Dr. Park explains this marked difference by pointing out that in Hobart all patients were detained at the Infectious Hospital until the bacteriological examination of the faucial mucus was negative on two occasions, while in Launceston the discharge was based on clinical appearances and not on bacteriological findings. More recently the scientific control has been introduced in Launceston. A small outbreak at the State School in Longford was rekindled after the vacation, as a result of the return to school of children who had been discharged from the Launceston Hospital clinically, but not bacteriologically, free from the disease. The outbreak was checked by the introduction of stringent precautionary measures, including the placarding of all houses harbouring persons who were carriers of the diphtheria bacillus. A small outbreak occurred at Gormanston, and the patients were treated in Queenstown. Arrangements have been made for the removal of patients suffering from notifiable diseases from the surrounding district to Queenstown, and a new isolation hospital is being erected within the grounds of the Queenstown Hospital.

Enteric Fever.

The number of cases of enteric fever notified during the year was 163, which is 44 more than in the preceding year. In Hobart an increase from 20 to 35 was recorded, and in Scotsdale from 13 to 26. The spread of the infection from Scotsdale to Burnie was traced through a person who had become infected in the former place and developed the disease when in Burnie. It appears that one outbreak in Scotsdale was due to the neglect on the part of a patient, a baker, to seek medical attendance during the first fortnight of the infection. It was discovered that soil pollution, due to slop waters being run off into cess-pits, was not uncommon. The obvious remedy to stem the recurring epidemics in Scotsdale is suggested, namely, the institution of a deep drainage system. Dr. Park also advocates protective inoculation and systematic examination for the detection of carriers. At Ringarooma an epidemic was attributed to a bacillus carrier, although confirmation of this assumption had not been obtained. Dr. Park calls attention to the occurrence of abortive attacks of enteric fever, which are of immence epidemiological importance.

Scarlet Fever.

Of the sixty cases of scarlet fever notified during the year sixteen occurred in Launceston. The illness was mild.

Puerperal Fever.

There were fourteen cases of puerperal fever reported: four from Launceston, three from Hobart, three from Deloraine and two from New Town. In connexion with seven of these cases the midwives in attendance were suspended from their practice for a period of twenty-one days.

Poliomyelitis.

During the year 1916-1917 only three cases of poliomyelitis were reported, while in the following twelve months there were fourteen. The distribution of the disease was erratic. Dr. Park does not venture on the expression of opinion as to whether the increased frequency was apparent or real. It is, however, not improbable that the increase may have been due in part to the fact that the attention of the medical profession has recently been directed to this complaint.

Venereal Diseases.

The regulations under the *Venereal Diseases Act* came into force on September 1, 1917, and the report therefore covers a period of ten months. The returns are given in the following table:—

VENEREAL DISEASES RETURNS FROM SEPTEMBER 1, 1917, TO JUNE 30, 1918.

	Gonorrhœa.		Syphilis.		Chancre.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Civil	269	45	57	18	14	0	340	63
Military	35	—	2	—	1	—	38	—

Dr. Park points out that notification would be useless unless adequate provision for treatment can be made. Great difficulty has apparently been experienced in obtaining facilities for treatment, especially in regard to the hospital class. Strong objection appears to have been taken at Launceston, as well as at several of the country towns, to the admission of patients suffering from venereal diseases into the wards of the hospital. A recommendation has been forwarded for the erection of a special ward, with four beds, at each of the city hospitals. The Hobart Hospital Board agreed in May, 1917, to set aside two wards with six beds each and to establish a venereal clinic for out-patients. Apparently the wards have been converted to other use and the clinic has never been instituted.

Supplies of arseno-benzol drugs have been obtained from the Federal Government, and are supplied on demand to hospitals. Dr. Park holds the opinion that a special part-time medical officer should be appointed in each of the city hospitals to undertake the treatment of venereal diseases.

No mention is made of any prosecutions instituted under the provisions of the Act for knowingly infecting a healthy person, for treating venereal diseases without being a registered medical practitioner or for other offences under the Act. It is also noteworthy that there is no discussion concerning the number of notifications or the difficulties experienced in obtaining proof of infection in certain cases. The disparity between the number of male and of female patients is very striking. In Western Australia it was found necessary to amend the legislation in order that a larger proportion of the females who were infected might be subjected to treatment. Few people will believe that the total number of infected persons in a community of approximately 200,000 does not exceed 400.

Bilharziosis.

On the recommendation of the Prime Minister, bilharziosis was added to the list of notifiable diseases in August, 1917, on account of the possibility of its introduction through the agency of soldiers returning from Egypt. Only one case was reported during the year in a patient who was not a returned soldier.

Other Notifiable Diseases.

Of the remainder of the notifiable diseases, ophthalmia neonatorum alone appears on the list. There were five cases of this condition.

Bacteriological Investigations.

An endeavour was made to secure the services of a bacteriologist with medical qualifications. As no suitable candidate applied for the post, the Department engaged the services of a non-medical bacteriologist, Mr. H. G. Beardmore, who entered upon his duties late in January, 1918. A short report is issued, covering a period of five months. Mr. Beardmore calls attention to the importance of carrying out a bacteriological control in the case of persons convalescent from diphtheria. In one instance 10½ weeks elapsed after the recovery of the patient before the bacilli disappeared from the throat. Other instances are also quoted. The rule of requiring two consecutive negative examinations will meet with universal approval. In regard to enteric fever he calls attention to the fact that blood samples were but rarely submitted for the Widal test.

He is satisfied with the conditions under which he is working, but points out that if the complement deviation test and other forms of diagnostic work are to be carried out, extended laboratory accommodation will be required. An animal house is being provided. The laboratory equipment is apparently somewhat meagre, but additions are being made as opportunity arises.

Infantile Mortality.

At the beginning of 1918 a nurse was appointed in Hobart to undertake various departmental duties. She was required to visit the homes of infants each morning and on two afternoons each week. On three afternoons she attended at a clinic to which mothers were invited to bring their infants. The Child Welfare Association arranged for the attendance of a medical man at the clinic on two afternoons in each week. The total number of mothers who brought their babies to the clinic during the five months of its existence was 483.

In Launceston a clinic was instituted in February, and was run on lines similar to those obtaining in Hobart. Dr. Park does not make any reference to the attendance of a medical practitioner at the Launceston clinic. It thus appears that the clinic in Hobart which has been established by a voluntary society, is placed under the management of a medical practitioner on two afternoons and of a nurse on three afternoons in each week. The fact that a medical practitioner has been appointed, is evidence of the recognition that the work in an infants' clinic necessitates physiological and clinical experience. We have pointed out on several occasions that no infant clinic is likely to be of value to the community unless it is guided by a practitioner who has considerable experience of the management of normal infants and of the ailments of children. Cities of the size of Hobart and Launceston contain a sufficient number of children to attract a practitioner to this specialty. Mere practice in this specialty is not sufficient. It is necessary for anyone who wishes to influence the mortality of infants, to delve deeply into the many difficult problems involved and to endeavour to contribute to their solution.

In 1917 there were 134 deaths of infants in Hobart and Launceston. The infantile mortality was 52.27 per 1,000 births. In the two preceding years it was 62.56. The Chief Health Officer points out that the educational work of a nurse influencing mothers to feed and handle their babies wisely is one step in the campaign to lessen the infantile mortality. Another step is the provision of pure milk. He suggests that a satisfactory supply could be arrived at by arrangement with one or more dairymen, if the Government would provide a small subsidy to cover the increased cost. He points out that 12% of the babies visited at Launceston were artificially fed and 15% in Hobart. It appears that the Tasmanian mothers show a distinct preference for the use of arrowroot biscuits for their infants.

Midwives.

The number of women on the Midwives' Register up to June, 1918, was 638. Certificates entitling the holder to practise were issued during the year to 259 women. The Chief Health Officer is unable to account for the disparity between these numbers. He suggests that some of the midwives not holding 1918 certificates were still practising. One of them actually notified a case of puerperal fever. In eleven municipal districts no person took out a certificate for practice. It would probably be of value if an investigation were made in these eleven districts concerning the morbidity and mortality among parturient women and the number of women attended by medical practitioners in their confinements.

In seven cases midwives were suspended for a period of 21 days after their last attendance on a patient suffering from puerperal fever. Investigations into the cause of puerperal fever were carried out in four of these cases. Dr. Park suggests that an amendment of the law should be effected for the exclusion from practice of untrained women who were shown to be grossly incompetent.

Quarantine Arrangements and Rat Extermination.

Dr. Park, as Chief Quarantine Officer, undertook the supervision of the necessary work at the Quarantine Station at Barnes' Bay. No active quarantine was carried out during the year. A large number of vessels were disinfected and many rats killed.

Trapping and poisoning of rats was carried out by the Department of Public Health. The number of rats caught in this manner was 4,054. It was obviously impossible to estimate the number of those poisoned.

In addition to the above, a considerable amount of information is contained in the special reports of the various officers of the Department, published as appendices.

John Wesley Hart, Esq. (M.B., Ch.M., 1890, M.D., University of Edinburgh, 1898), of Sutherland, Frederic Lindsay Macqueen, Esq. (M.B., 1917, Univ. Sydney), of "Bokhara," Cremorne Road, Cremorne, and Henry Laurence Tonkin (M.B., 1918, Univ. Sydney), of 49 Womerah Avenue, Darlinghurst, New South Wales, have been nominated for election as members of the New South Wales Branch of the British Medical Association.

William Henry Fitchett, Esq., M.B., Ch.B. (1918, Melb.), of Melbourne Hospital, and Walter Henry Steel, M.B., Ch.B. (1918, Melb.), of Woolocott Street, Coburg, have been elected as members of the Victorian Branch of the British Medical Association.

Special Correspondence.

(By our Special Correspondent.)

CANADA LETTER.

A Canadian National Committee for Mental Hygiene.

For some years past there has been in Canada a growing realization of the importance of the study of psychiatry. It has been recognized that only through more comprehensive study of this subject can the problems of mental deficiency, insanity and crime be dealt with with any hope of success. The war has brought this subject into greater prominence; it has made us realize the importance of conserving the health, mental as well as physical, of the nation, and it has added the problem of the returned soldier who is mentally abnormal to that of the civilian mental degenerate. In the latter field the spendid work done by Dr. C. K. Clarke and Dr. Clarence M. Hincks, of Toronto, has stimulated interest in the subject of mental hygiene.

On April 26, 1918, at Ottawa, the Canadian National Committee was organized. Dr. C. K. Clarke was appointed the Medical Director. This Committee is not affiliated with the National Committee for Mental Hygiene of the United States, but it will be conducted along the same lines. Its chief purposes, as set forth in the constitution, are: "To work for the conservation of mental health and for improvement in the care and treatment of those suffering from nervous or mental deficiency and for the prevention of these disorders; to conduct or to supervise surveys for the care of those suffering from mental diseases or mental deficiency; to co-operate with other agencies which deal with any phases of these problems; to enlist the aid of the Dominion and Provincial Governments, and to help organize and aid affiliated provincial and local societies or committees for mental hygiene."

The Committee is being financed by private subscription; a budget of $25,000 a year for three years, or a total of $75,000, will be necessary, and of this amount over $50,000 already has been contributed. Local societies will be formed in all the larger centres of the Dominion, and the work has been taken up with interest by leading men throughout the country. The inauguration of the Committee is largely due to the efforts of Dr. Clarence M. Hincks, who co-ordinated the activities of the various individual groups that were working along the same lines.

It may be of interest to note here that the inception of the American Society was due to the efforts of Mr. Clifford W. Beers, a graduate of Yale University, who suffered from a manic-depressive psychosis and received treatment in various Connecticut hospitals for the insane for three years. His condition presented nothing unusual, save in the marvellous accuracy of recollection which he retained after the attack. Upon his recovery Mr. Beer exerted every effort to stimulate interest in the insane. Eventually his book, entitled "A Mind That Found Itself," which is now in its fourth edition, attracted attention, with the result that the American Commitee for Mental Hygiene was founded.

Admission of Women to the Study of Medicine.

Upon the recommendation of the medical faculty, the Corporation of McGill University, on May 10, 1918, admitted women to the study of medicine, provided they have completed the first and second year in Arts at that university, have taken a degree in Arts from a recognized university, or will take the double course of B.A. and M.D. or B.Sc. and M.D. at McGill. The study of medicine is therefore now open to women at the Universities of Toronto, Queen's and Manitoba, and also at Western University, in London, Ontario.

A Department for Social Service and a School for Physical Training for Masseuses has been inaugurated at McGill University. The course includes a thorough grounding in anatomy, physiology and hygiene, with the practice and theory of massage and medical gymnastics, also various forms of physiotherapy.

It is also probable that a course of instruction for nurses in anatomy, physiology and materia medica will shortly be commenced at the University of McGill.

A department of physiotherapy has been established at Toronto University.

The Llandovery Castle.

Eighty-nine members of the Canadian Army Medical Corps were lost when the hospital ship *Llandovery Castle* was sunk by a German submarine seventy miles from the Irish coast, on the night of June 27, 1918. Of the fourteen nursing sisters on board, all were lost, as the boat in which they were, capsized. The sinking of this ship was deliberate, as all lights were burning. There was a huge electric cross over the bridge, strings of white and green lights on either side, and red crosses of electric lights on the sides of the ship. There was neither panic nor confusion, and five fully loaded boats were able to get safely away, but were wantonly shelled by the submarine, and their occupants lost. The commander of the submarine afterwards fired revolver shots on those who were picking up the drowning men, and compelled them to desist.

Spanish Influenza.

Since its appearance on the American side of the Atlantic, "Spanish" influenza has taken its full toll of lives both in Canada and the United States. Thousands of cases have occurred in Montreal, Ottawa, Toronto and other cities. In many places schools, theatres, "movies," and churches are closed, and shops are only open during certain hours. Hospitals are overcrowded, and doctors and nurses almost impossible to get. A great many deaths from pneumonia following the influenza have occurred both among soldiers and civilians, and many members of the profession have themselves succumbed. In small places, where no facilities exist to deal with such an epidemic, the loss of life appears to have been particularly heavy. In New York, medical students are acting as nurses.

Correspondence.

THE HEALTH OF THE STATE.

Sir,—Dr. Morton's paper under the heading of "Health of the State" draws attention to several vital questions of great importance.

"That most ill-health is due to epidemic disease"—a statement founded on his experience—on consideration appeals to me as well founded. The increase in appendicitis following influenza and its association with that disease markedly supports the theory.

That the milk supply is a vital one, or that a satisfactory method has yet to be evolved whereby supplies can give a community consistently clean, fresh milk, instead of a fluid, as at present, which has to be treated with suspicion is beyond question. Why not adopt the American paper milk bottle, costing a half-penny per quart bottle and only weighing two ounces, which necessitates only one handling of the milk.

The importance of insect carriers is properly drawn attention to by Dr. Morton, as is also the fact that they are generally ignored. In estimating their importance, the fact that they are and always have been potent causes of disease right over the continent of Australia is within the knowledge of all those who are conversant with the history of primary settlement. Is not a history such as the following characteristic? The progenitors of Billjim found gold, a rush followed, colonial fever broke out, which caused great suffering and loss of life.

The late Dr. McGillvery, of Bendigo, proved, in spite of considerable opposition, mainly from the laity, the non-existence of colonial fever, by finding characteristic typhoid lesions and by the adoption of a typhoid diet markedly decreased the death-rate.

That typhoid and gastro-enteritis can be controlled, even where they are endemic, I would quote the following figures and facts from my letter to your journal of November 14, 1914, concerning enteric, which was then endemic in and outside the Borough of Wagga for three years, before and after 1909, when steps were taken to control fly carriers.

	In Borough.	Outside.
1905	100	18
1906	71	12
1907	43	13
1908	69	23
1909	83	20
1910	20	21
1911	11	8
1912	5	7
1913	6	16

AVERAGE NUMBER OF CASES.

Before Introduction of Sanitary Measures.		After Introduction of Sanitary Measures.	
Within Borough.	Without Borough.	Within Borough.	Without Borough.
73⅕	17⅕	10½	13

Cases outside the borough may be looked upon as controls, as the shires have not adopted reforms referred to.

Severe gastro-enteris, with its heavy death-rate, is now practically unknown, cases now being few, mild and amenable to treatment, instead of almost invariably fatal.

Assumably, the original intention was to install the earth system; in fact, I have come across isolated instances of such being introduced. It is deplorable to find that, with the exception of a few cities and towns which have been sewered, matters are as bad as ever, and, instead of removing the main cause of typhoid and gastro-enteritis, those places where flies can contaminate themselves by contact with human excreta, by making such places fly-proof, we now have a proposal to render our population immune to living in filthy surroundings, as far as enteric is concerned (taking no steps to wipe out a gastro-enteritis or the repulsive fact that fæcal contaminated flies are allowed to pollute our food).

Since the foregoing letter was written, the adjoining shires have adopted modified precautions, to be detailed with satisfactory results as to typhoid incidence in Wagga. The figures for Wagga for the last four years totalled nine, or an average of 2¼ a year.

Prior to 1909 builders conformed to the old State regulation and made closet seats on open framework, giving free access of light, air and flies to the pan. An unprotected pan or cess-pit is a dire menace to public health, in so much that if one was asked to formulate a system for dissemination of infections they could but say the foregoing meets all requirements, as the following shows:—

(*a*) Incubator = Pan. Temperature supplied by summer heat.

(*b*) Nutrient media = Putrescent excreta.

(*c*) Specific viri = (1) Human carrier, typhoid, dysentery, etc.; (2) insect carrier, typhoid, dysentery, etc.

(*d*) Disseminator = Insect carrier; conveys infection from infective matter in pan to human food.

To combat the foregoing dangers the municipal authorities adopted the following precautions: Pan holders were made fly-proof, fitted with a hinged lid, self-closing, with drop trapdoors at back, which worked in grooves, which do not go out of order like hinged doors.

(*a*) The holders were made of galvanized iron, so bent as to permit the pan being pushed in from the rear and of such a size as to act as a guide to secure the proper placing of the pan. It is fitted with a wooden seat and placed on a concrete floor.

(*b*) Garbage tins with lids were provided.

(*c*) Horse manure receptacles were built in brick on level of yard surface, with a wooden lid (hinged).

The other steps taken were the fly-proofing of windows and doors of hotel dining-rooms and kitchens.

Shops selling food were fitted with fly-proof doors and windows.

The outlying townships and isolated dwellings, with the exception of the few which had septic tanks (an inconsiderable number), either made pan-holders fly-proof or reverted to cess-pits which they made fly-proof, as it was recognized outside of places which had a night-soil service pans are a source of danger and difficulty from want of attention.

Since your publication of my former letter I have had several applications for these details. Persons that keep poisons are compelled to prevent access thereto by the criminal or careless, why should not those who have infectious matter on their premises not be compelled to protect it, the infectious matter, from flies, who will find it and carry it over the fence to probably contaminate the neighbours' food?

May one hope as the result of the thorough manner in which every precaution has been taken to control the present pandemic influenza that the same thought will be applied to the problem of insect carriers which yearly cause so much suffering, chronic invalidism and loss of life? I would point out that this can only be controlled by concerted action, as the fly takes you down to the risk of the standard of cleanliness of your most careless neighbour.

Yours, etc.,
HENRY STOKER, F.R.C.S., D.P.H..

Sydney, February 24, 1919.

"FRUIT POISONING."

Sir,—Under the heading "Mysterius Deaths" in *The Sydney Morning Herald*" (February 25), may I suggest the possibility that these children died from toxæmia, the result of decomposition of fruit or tomatoes in the bowel.

When practising in Inglewood, Southern Queensland, six years ago, I came across two similar deaths and heard of several other deaths due to eating fruit, particularly in children, death taking place from twelve to twenty-four hours after eating the fruit and without obvious symptoms to parents to warn them of the danger.

I was told of cases where two and three children had died within twenty-four hours of eating water-melon and grapes respectively, and of a man who died fifty-six hours after eating tomatoes. At the risk of trespassing on your valuable space I will describe a few cases I remember.

Personally I have been in the habit of calling these cases fruit-poisoning. The symptoms are:—

(1) There may or may not be slight retching or vomiting, and then probably toxæmic, due to the poisonous gases absorbed from the bowel.

(2) There may be slight diarrhœa or constipation, generally the latter.

(3) Generally some abdominal distension, but not marked.

(4) Pulse-rate is exceedingly rapid, and becomes quite uncountable. I know of no condition of illness where the pulse is so rapid.

(5) Duskiness, then blueness, of the skin, due, I think, to the rapid heart beat and feeble circulation.

(6) The child is first of all dazed, as though intoxicated, then passes gradually to a state of unconsciousness and rapid death. The child is apparently well in the morning and dead by nightfall.

(7) If the case is treated in time by calomel and enemata to clear out the bowel the stench from the bowel is so intense as to be almost diagnostic of the condition. I have several times retched myself during the process, and had to tie a handkerchief round my nose and mouth.

(8) The recovery is rapid if taken in time, even after the child is dusky and pulse up to 180.

(9) Craving for water is also a marked symptom, although, of course, this applies to most illnesses in children.

(10) Temperature is raised and respirations increased.

A most marked feature of the condition, to my mind, is the fact that the symptoms of danger are not sufficiently pronounced for the parents to send for a doctor until the child is dead or close to death.

The cases I remember in Queensland are as follows:—

(1) The father sent for me early during the night to see his daughter, eight years old, who had died. She was quite well in the morning, had retched in the afternoon, had two or three motions, laid down (they were timber-getters living in a tent) and died before the mother realized anything serious was wrong. I would have been none the wiser as to the cause of her death but for the fact that, later on during the night (about 3 a.m.) they brought in her brother I had not seen in the tent, suffering, the parents said, evidently from the same illness. I elicited the fact that the two children had been eating grapes early the morning before, *i.e.*, same day the girl died.

The boy was dusky, temperature 38.8° C. (102° F.), pulse almost uncountable owing to its rapidity.

I kept the boy in my consulting-room on a couch up till the next evening. Calomel, brandy enemata were given. The contents of the bowel had the usual frightful smell, and the child recovered.

(2) Was sent for to a woman close by, whose child, eighteen months old, was ill; went at once (early morning) and found the child dead in the mother's arms. Mother would not believe the child was dead. The child had eaten some water-melon the day before.

(3) Sent for to see a woman who had just dropped to the floor in a sudden faint. Found her dusky in colour and pulse 180. On enquiry, said she had been eating a great number of apples. Gave calomel and enemata; usual smell. She soon recovered.

(4) Woman drove up to my house and lifted her ten years old boy out of the jinker; he staggered, reeled and fell to the ground; very dusky in colour and usual intensely rapid pulse. Gave him brandy and calomel and enemata at once, and then sent him home. Recovered.

I remember several other cases, more or less severe, without any convulsions, and other cases with convulsions, where toxæmia was not so intense as those cases without convulsions.

Since leaving Queensland some six years ago I have not had a similar case until quite recently an old gentleman came and asked me for a prescription for his little granddaughter, eight years old, who was on a visit at his house with her mother; she had vomited once or twice and seemed dazed and was getting delirious. She had been running about in the morning. I insisted on seeing the child at once, notwithstanding protests as being unnecessary.

The child was getting bluey, pulse uncountable, rambled a little, otherwise was quiet. I told the grandfather the child would be dead in a few hours, to get the father at once, etc.

Neither the mother nor grandfather would believe me. I obtained at once a trained nurse, who happened to be near. The child was dead in four hours. She had been eating peaches and freshly-made tomato pickle the two days previous to her death and the morning of the day of her death.

Yours, etc.,
N. PERN.

Fairfield, Victoria,
February 25, 1919.

THE EFFICIENCY OF MEDICAL PRACTITIONERS.

Sir,—Twenty-five years ago registration was the trade mark of life-long efficiency to a medical practitioner. For centuries advances in medicine and surgery had been so slow that a good medical education then sufficed for a lifetime. But, on the other hand, progress has since been so rapid that Sir William Osler has said with truth that: "in five years the isolated practitioner requires a month of hospital work to bring his knowledge up-to-date, that in ten years he requires a year of study, and that at the end of twenty years he is in such depths of ignorance as to be hopeless." The consequence of this rapid advance is that post-graduate

study is a necessity of to-day, and until such a course is at the disposal of those who have neither the ambition nor the opportunity to arrange for such a course elsewhere, the general practitioner must be content to further degenerate, so that it is not the practitioner's fault. I think I am correct in stating that the War Office requires all naval and military surgeons to undergo such a course every five years and pays half the expense of same. At least, this is what I was given to understand when I spent eighteen months at this work at home.

Yours, etc.,

RICHARD JONES.

110 Collins Street, Melbourne,
March 1, 1919.

Books Received.

INTERIM REPORT OF THE NEW SOUTH WALES BOARD OF TRADE ON THE PREVALENCE OF MINERS' PHTHISIS AND PNEUMOCONIOSIS IN CERTAIN INDUSTRIES: Volume I. Report and Appendices; 1919. Sydney: Printed by W. A. Gullick, Government Printer; Royal 8vo., pp. 212.

INTERIM REPORT OF THE NEW SOUTH WALES BOARD OF TRADE ON THE PREVALENCE OF MINERS' PHTHISIS AND PNEUMOCONIOSIS IN CERTAIN INDUSTRIES: Volume II., Evidence and Exhibitis; 1919. Sydney: Printed by W. A. Gullick, Government Printer; Royal 8vo., pp. 190.

Medical Appointments.

Dr. W. Francis Quaife, Medical Officer, Department of Education, New South Wales, has retired from the Public Service in terms of Section 66 of the *Public Service Act, 1902*.

At the first meeting of the Clermont Town Council, held in January, 1919, Alderman Dr. John Higgins (B.M.A.) was unanimously elected Mayor for the ensuing twelve months.

Dr. E. A. Matison has been appointed Medical Officer to attend to destitute persons and aborigines within the District of Neales, South Australia.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital.
TASMANIA. (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec. 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Canterbury United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Friendly Society Lodges at Lithgow. Friendly Society Lodges at Parramatta, Auburn and Lidcombe. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. New South Wales Ambulance and Transport Brigade. Newcastle Collieries—Killingworth, Seaham Nos. 1 and 2, West Wallsend. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Mar. 11.—N.S.W. Branch, B.M.A., Ethics Committee.
Mar. 13.—Vic. Branch, B.M.A., Council.
Mar. 13.—N.S.W. Branch, B.M.A., last day for nomination of candidates for election to the Council.
Mar. 14.—S.A. Branch, B.M.A., Council.
Mar. 14.—Q. Branch, B.M.A., Council.
Mar. 18.—Tas. Branch, B.M.A., Branch and Council.
Mar. 18.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Mar. 19.—West. Aust. Branch and Council, B.M.A.
Mar. 19.—Western Suburbs Medical Association (Sydney).
Mar. 25.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Mar. 26.—Vic. Branch, B.M.A., Council.
Mar. 27.—S.A. Branch, B.M.A.
Mar. 27.—N.S.W. Branch, B.M.A., return of ballot papers for election of members of the Council.
Mar. 28.—N.S.W. Branch, B.M.A., Annual Meeting.
Mar. 28.—Q. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.